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=> d que l29
L5            2 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  NI2SI/MF
L7         1085 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L5
L10      143853 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  ANNEALING+PFT,NT/C
                T
L11       34829 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  "ROLLING (METALS)"
                +PFT,NT/CT
L20       80304 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  (CU(L)NI(L)SI)/EL
                S
L21       63949 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L20 AND (MG OR
                SN OR ZN OR AG OR CR)/ELS
L23      109669 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L21
L24          44 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L23 AND L7
L25           6 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L24 AND (L10 OR
                L11)
L26          31 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L24 AND PROC/RL
L27          44 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L24 OR L25 OR
                L26)
L28          39 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L27 AND (1802-2007
                )/PRY,AY,PY
L29          39 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L28 AND ALLOY?/SC,
                SX


=> fil hcap
FILE 'HCAPLUS' ENTERED AT 14:32:52 ON 23 JAN 2012
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FILE COVERS 1907 - 23 Jan 2012 VOL 156 ISS 5
FILE LAST UPDATED: 22 Jan 2012 (20120122/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Oct 2011
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Oct 2011

HCAplus now includes complete International Patent Classification (IPC) reclassification data for the third quarter of 2011.

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http://www.cas.org/legal/infopolicy.html

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d l29 1-39 ibib ed abs hitstr hitind

L29 ANSWER 1 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2007:1067126 HCAPLUS Full-text
DOCUMENT NUMBER: 148:83447
TITLE: A new high performance copper based alloy for electro-mechanical connectors
AUTHOR(S): Kuhn, H.-A.; Kaeufler, A.; Ringhand, D.; Theobald, S.
CORPORATE SOURCE: Metal Division, Product Technology Department, Wieland-Werke AG, Ulm, D-89079, Germany
SOURCE: Materialwissenschaft und Werkstofftechnik (2007), 38(8), 624-634
CODEN: MATWER; ISSN: 0933-5137
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 24 Sep 2007
AB The pptn. hardened high-copper alloy CuNi1Co1Si (UNS design. C70350) was developed in two tempers in a high strength spring material for small connector devices. The combination of high strength, moderate cond., excellent thermal stability and good formability is explained by the microstructure of the strip material. In comparison to the nickel silicide hardened connector material CuNi3Si (C70250) the cobalt contg. mixed silicides improve significantly strength. The weak anisotropy of the spring characteristics is explained by a process-dependent texture. The good formability is calcd. by FEM and proven by standardized bend test, as well as by manufg. a demonstration part which is similar to a connector.

IT 12059-14-2, Nickel silicide (Ni2Si)
(new high performance copper based alloy for electro-mech. connectors)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT 129847-71-8, C70250 960202-99-7, Copper 94-98, magnesium 0.1-0.3, nickel 2.2-4.2, silicon 0.3-1.2
(new high performance copper based alloy for electro-mech. connectors)
RN 129847-71-8 HCAPLUS
CN Copper alloy, base, Cu 93-98,Ni 2.2-4.2,Si 0.25-1.2,Zn 0-1.0,Mg 0.05-0.30,Fe 0-0.20,Mn 0-0.10,Pb 0-0.05 (UNS C70250) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	93 - 98	7440-50-8
Ni	2.2 - 4.2	7440-02-0
Si	0.25 - 1.2	7440-21-3
Zn	0 - 1.0	7440-66-6
Mg	0.05 - 0.30	7439-95-4
Fe	0 - 0.20	7439-89-6
Mn	0 - 0.10	7439-96-5
Pb	0 - 0.05	7439-92-1

RN 960202-99-7 HCAPLUS
CN Copper alloy, base, Cu 94-98,Ni 2.2-4.2,Si 0.3-1.2,Mg 0.1-0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	94 - 98	7440-50-8
Ni	2.2 - 4.2	7440-02-0
Si	0.3 - 1.2	7440-21-3
Mg	0.1 - 0.3	7439-95-4

CC 56-12 (Nonferrous Metals and Alloys)
IT 7440-50-8, Copper, properties 12059-14-2, Nickel silicide (Ni2Si) 12134-03-1, Cobalt silicide (Co2Si)
(new high performance copper based alloy for electro-mech. connectors)
IT 129847-71-8, C70250 960202-98-6, Cobalt 1-2, copper 95-98, nickel 1-2, silicon 0.5-1 960202-99-7, Copper 94-98, magnesium 0.1-0.3, nickel 2.2-4.2, silicon 0.3-1.2
(new high performance copper based alloy for electro-mech. connectors)
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 2 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2007:533755 HCAPLUS Full-text
DOCUMENT NUMBER: 146:505247
TITLE: High-strength copper-nickel-silicon alloy with good shearing property, and its manufacture
INVENTOR(S): Yamamoto, Yoshinori; Takano, Hiroaki; Tong, Chinping; Nomura, Katsumi
PATENT ASSIGNEE(S): Hitachi Cable, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 12pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007119845	A	20070517	JP 2005-313297 <--	20051027
JP 4556842	B2	20101006		
PRIORITY APPLN. INFO.:			JP 2005-313297 <--	20051027

ED Entered STN: 18 May 2007
AB The Cu alloy article contains Ni 1.0-5.0, Si 0.2-1.0, and optionally Zn and/or Sn total .ltoreq.5.0 wt.% and has Ni2Si ppt. distribution obsd. at cross-section vertical to rolling direction to satisfy a/b .gtoreq.2 [a and b are d. as no./mm2 of 0.03-3 .mu.m-size Ni2Si ppts. in surface layers within 20%-thickness from top surface for both sides and in the inner layer excluding the surface layers, resp.]. The Cu alloy article is manufd. by forming a Cu alloy preform having the above compn., heating the preform at 700-900.degree., cooling at rate .gtoreq.25.degree./min to .ltoreq.300.degree., repeat-rolling at single pass draft .ltoreq.5% to total draft .gtoreq.10%, heating at 300-450.degree. for 5 min to 5 h, and heating at 450-600.degree. for 5 min to 5 h. The article has high mech. strength, elec. cond., and spring performance and is suitable for terminals, connectors, lead frames, etc.
IT 936090-24-3 936090-25-4
(high-strength Cu-Ni-Si alloy article with good shearing property and its manuf. by controlled heat treatment and rolling)
RN 936090-24-3 HCAPLUS
CN Copper alloy, base, Cu 94,Ni 3,Zn 1.5,Si 0.7,Sn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	94	7440-50-8
Ni	3	7440-02-0
Zn	1.5	7440-66-6
Si	0.7	7440-21-3
Sn	0.3	7440-31-5

RN 936090-25-4 HCAPLUS
CN Copper alloy, base, Cu 84-99,Ni 1-5,Sn 0-5,Zn 0-5,Si 0.2-1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number

```
    Cu      84   -  99        7440-50-8
    Ni       1   -   5        7440-02-0
    Sn       0   -   5        7440-31-5
    Zn       0   -   5        7440-66-6
    Si     0.2   -   1        7440-21-3

IT   12059-14-2, Nickel silicide (Ni2Si)
        (ppt. in alloy, controlled distribution of; high-strength Cu-Ni-Si
        alloy article with good shearing property and its manuf. by
        controlled heat treatment and rolling)
RN   12059-14-2  HCAPLUS
CN   Nickel silicide (Ni2Si)  (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IPCI C22C0009-06 [I,A]; C22F0001-08 [I,A]; C22C0009-02 [I,A]; C22C0009-04
     [I,A]; B21B0003-00 [I,A]; B21B0001-22 [I,A]; H01H0001-025 [I,A];
     H01H0001-04 [I,A]; C22F0001-00 [N,A]; C22C0009-06 [I,A]; C22C0009-02
     [I,A]; C22C0009-04 [I,A]; C22C0009-10 [I,A]; C22F0001-08 [I,A];
     B21B0003-00 [I,A]; B21B0001-22 [I,A]; H01H0001-025 [I,A]; H01H0001-04
     [I,A]; C22F0001-00 [N,A]; H01B0001-02 [N,A]
IPCR C22C0009-06 [I,A]; B21B0001-22 [I,A]; B21B0003-00 [I,A]; C22C0009-02
     [I,A]; C22C0009-04 [I,A]; C22F0001-00 [N,A]; C22F0001-08 [I,A];
     H01H0001-025 [I,A]; H01H0001-04 [I,A]; C22C0009-10 [I,A]; H01B0001-02
     [N,A]
CC   56-3 (Nonferrous Metals and Alloys)
IT   Cold rolling
        (high-strength Cu-Ni-Si alloy article with good shearing property
        and its manuf. by controlled heat treatment and rolling)
IT   Rolling (metals)
        (hot; high-strength Cu-Ni-Si alloy article with good shearing
        property and its manuf. by controlled heat treatment and rolling)
IT   134181-45-6   936090-24-3   936090-25-4
        (high-strength Cu-Ni-Si alloy article with good shearing property
        and its manuf. by controlled heat treatment and rolling)
IT   12059-14-2, Nickel silicide (Ni2Si)
        (ppt. in alloy, controlled distribution of; high-strength Cu-Ni-Si
        alloy article with good shearing property and its manuf. by
        controlled heat treatment and rolling)

L29  ANSWER 3 OF 39  HCAPLUS  COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER:         2007:532744  HCAPLUS  Full-text
DOCUMENT NUMBER:          146:505246
TITLE:                    High-strength copper-nickel-silicon alloy article
                          with good bending property, and its manufacture
INVENTOR(S):              Yamamoto, Yoshinori; Takano, Hiroaki; Dong,
                          Qing-Ping; Nomura, Katsumi
PATENT ASSIGNEE(S):       Hitachi Cable, Ltd., Japan
SOURCE:                   Jpn. Kokai Tokkyo Koho, 12pp.
                          CODEN: JKXXAF
DOCUMENT TYPE:            Patent
LANGUAGE:                 Japanese
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
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JP 2007119844 A 20070517 JP 2005-313296 20051027
<--
JP 4556841 B2 20101006
PRIORITY APPLN. INFO.: JP 2005-313296 20051027
<--

ED Entered STN: 17 May 2007

AB The Cu alloy article contains Ni 1.0-5.0, Si 0.2-1.0, and optionally Zn and/or Sn total .ltoreq.5.0 wt.% and has Ni2Si ppt. distribution obsd. at cross-section vertical to rolling direction to satisfy a/b .ltoreq.0.5 [a and b are d. as no./mm2 of 0.03-3 .mu.m-size Ni2Si ppts. in surface layers within 20%-thickness from top surface for both sides and in the inner layer excluding the surface layers, resp.]. The Cu alloy article is manufd. by forming a Cu alloy preform having the above compn., heating the preform at 700-900.degree., cooling at rate .gtoreq.25.degree./min to .ltoreq.300.degree., heating at 300-500.degree. for 5 min to 5 h, repeat-rolling at single pass draft .ltoreq.5% to total draft .gtoreq.10%, and heating at 550-700.degree. for 5 s to 5 min. The article has high mech. strength, elec. cond., and spring performance and is suitable for terminals, connectors, lead frames, etc.

IT 936090-24-3 936090-25-4
(high-strength Cu-Ni-Si alloy article with good bending property and its manuf. by controlled heat treatment and rolling)

RN 936090-24-3 HCAPLUS

CN Copper alloy, base, Cu 94,Ni 3,Zn 1.5,Si 0.7,Sn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	94	7440-50-8
Ni	3	7440-02-0
Zn	1.5	7440-66-6
Si	0.7	7440-21-3
Sn	0.3	7440-31-5

RN 936090-25-4 HCAPLUS

CN Copper alloy, base, Cu 84-99,Ni 1-5,Sn 0-5,Zn 0-5,Si 0.2-1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	84 - 99	7440-50-8
Ni	1 - 5	7440-02-0
Sn	0 - 5	7440-31-5
Zn	0 - 5	7440-66-6
Si	0.2 - 1	7440-21-3

IT 12059-14-2, Nickel silicide (Ni2Si)
(ppt. in alloy, controlled distribution of; high-strength Cu-Ni-Si alloy article with good bending property and its manuf. by controlled heat treatment and rolling)

RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IPCI C22C0009-06 [I,A]; C22C0009-10 [I,A]; C22F0001-08 [I,A]; C22C0009-02 [I,A]; C22C0009-04 [I,A]; C22F0001-00 [N,A]; H01B0001-02 [N,A];

C22C0009-06 [I,A]; C22C0009-02 [I,A]; C22C0009-04 [I,A]; C22C0009-10 [I,A]; C22F0001-08 [I,A]; C22F0001-00 [N,A]; H01B0001-02 [N,A]
IPCR C22C0009-06 [I,A]; C22C0009-02 [I,A]; C22C0009-04 [I,A]; C22C0009-10 [I,A]; C22F0001-00 [N,A]; C22F0001-08 [I,A]; H01B0001-02 [N,A]
CC 56-3 (Nonferrous Metals and Alloys)
IT Cold rolling
(high-strength Cu-Ni-Si alloy article with good bending property and its manuf. by controlled heat treatment and rolling)
IT Rolling (metals)
(hot; high-strength Cu-Ni-Si alloy article with good bending property and its manuf. by controlled heat treatment and rolling)
IT 134181-45-6 936090-24-3 936090-25-4
(high-strength Cu-Ni-Si alloy article with good bending property and its manuf. by controlled heat treatment and rolling)
IT 12059-14-2, Nickel silicide (Ni2Si)
(ppt. in alloy, controlled distribution of; high-strength Cu-Ni-Si alloy article with good bending property and its manuf. by controlled heat treatment and rolling)

L29 ANSWER 4 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2007:215972 HCAPLUS Full-text
DOCUMENT NUMBER: 147:389997
TITLE: Analysis of precipitating behavior of strengthening phase in Cu-3.2Ni- 0.75Si-0.30Zn alloy
AUTHOR(S): Wang, Dongfeng; Wang, Dingjiang; Pan, Qingjun; Kang, Buxi; Liu, Ping
CORPORATE SOURCE: Second Department, The First Aeronautic Institute of Air Force, Xinyang, 464000, Peop. Rep. China
SOURCE: Jinshu Rechuli (2006), 31(1), 43-45
CODEN: JRECDB; ISSN: 0254-6051
PUBLISHER: Jinshu Rechuli Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
ED Entered STN: 28 Feb 2007
AB The pptn. mechanism of strengthening phase in super-satd. solid soln. of Cu-3.2Ni-0.75Si-0.30Zn alloy during aging was studied with microstructure, microhardness and elec. cond. The results show that in the early aging (at 250-450.degree.C), super- satd. solid soln. will transformed by means of spinodal decompn. As a result, the solute atoms-poor region and rich region are formed. With the prolongation of aging time, the ordering appearance in solute atoms-rich region, and with matrix semi-coherent the strengthening phase is formed. If aging continues, and the strengthening phase is pptg. and growing, the semi-coherent relation will be destroyed. In the end, under action of surface tension, strengthening phase will be spheroidized. Meanwhile, the increasing tendency of elec. cond. and microhardness is slowed.
IT 12059-14-2, Dinickel silicide
(anal. of pptg. behavior of strengthening phase in Cu-3.2Ni-0.75Si-0.30Zn alloy)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT 151511-92-1
(anal. of pptg. behavior of strengthening phase in Cu-3.2Ni-0.75Si-0.30Zn alloy)

RN 151511-92-1 HCAPLUS
CN Copper alloy, base, Cu 96,Ni 3.2,Si 0.8,Zn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	96	7440-50-8
Ni	3.2	7440-02-0
Si	0.8	7440-21-3
Zn	0.3	7440-66-6

CC 56-10 (Nonferrous Metals and Alloys)
IT Aging, materials
Annealing
Electric conductivity
Microhardness
Spinodal decomposition
(anal. of pptg. behavior of strengthening phase in Cu-3.2Ni-0.75Si-0.30Zn alloy)
IT 12059-14-2, Dinickel silicide
(anal. of pptg. behavior of strengthening phase in Cu-3.2Ni-0.75Si-0.30Zn alloy)
IT 151511-92-1
(anal. of pptg. behavior of strengthening phase in Cu-3.2Ni-0.75Si-0.30Zn alloy)

L29 ANSWER 5 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2006:1129246 HCAPLUS Full-text
DOCUMENT NUMBER: 145:458889
TITLE: Preparation of .beta. phase-based brass tube with high strength and abrasion resistance
INVENTOR(S): Li, Honglei; Yu, Xiaogang; Huang, Zixin; Guo, Sumei; Wang, Tao; Huang, Yafei; Miao, Guowei; Guo, Huiwen; Zhang, Yan
PATENT ASSIGNEE(S): Luoyang Copper Group Co., Ltd., Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 9pp. CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1710127	A	20051221	CN 2005-10080322 <--	20050704
CN 100449018	C	20090107		
PRIORITY APPLN. INFO.:			CN 2005-10080322 <--	20050704

ED Entered STN: 30 Oct 2006
AB The title brass tube is prepd. by smelting multi-component alloy (based on Cu-Zn alloy and including alloy elements of Fe, Ni, Mn, Co, Si, Al, and Cr), casting at 1300-1400.degree.C under 0.02-0.1 MPa at a speed of 1.5-4.5 m/h, heating, extruding at 500-800.degree.C with a max. deformation degree above 95%, cooling, hot-straightening, tempering at 300-350.degree.C for 1-2 h, and sawing. The obtained brass tube has uniform abrasion-resistant phases (such as FeAl3, Mn5Si3,

Ni2Si, etc.), high strength and abrasion resistance, and can be used for automobile synchronizer gear ring.
IT 12059-14-2P, Nickel silicide (Ni2Si) 913176-38-2P 913176-39-3P
(prepn. of .beta. phase-based brass tube with high strength and abrasion resistance)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 913176-38-2 HCAPLUS
CN Copper alloy, base, Cu 60,Zn 34,Mn 2.5,Al 2,Si 0.8,Ni 0.3,Cr 0.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	60	7440-50-8
Zn	34	7440-66-6
Mn	2.5	7439-96-5
Al	2	7429-90-5
Si	0.8	7440-21-3
Ni	0.3	7440-02-0
Cr	0.2	7440-47-3

RN 913176-39-3 HCAPLUS
CN Copper alloy, base, Cu 63,Zn 27,Al 3.5,Ni 3,Co 1.5,Si 0.8,Mn 0.6,Fe 0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	63	7440-50-8
Zn	27	7440-66-6
Al	3.5	7429-90-5
Ni	3	7440-02-0
Co	1.5	7440-48-4
Si	0.8	7440-21-3
Mn	0.6	7439-96-5
Fe	0.5	7439-89-6

IPCI C22C0009-04 [I,C]; C22C0009-04 [I,A]; B21C0023-02 [I,C]; B21C0023-08 [I,A]; B21D0003-00 [I,C]; B21D0003-00 [I,A]; B22D0007-00 [I,C]; B22D0007-00 [I,A]; C22C0001-02 [I,C]; C22C0001-02 [I,A]; C22F0001-08 [I,C]; C22F0001-08 [I,A]
IPCR C22C0009-04 [I,A]; B21C0023-08 [I,A]; B21D0003-00 [I,A]; B22D0007-00 [I,A]; C22C0001-02 [I,A]; C22F0001-08 [I,A]
CC 56-12 (Nonferrous Metals and Alloys)
IT 12004-62-5P 12018-08-5P, Chromium silicide (CrSi) 12023-54-0P, Iron silicide (Fe3Si) 12033-10-2P, Manganese silicide (Mn5Si3) 12035-60-8P 12059-14-2P, Nickel silicide (Ni2Si) 12134-03-1P, Cobalt silicide (Co2Si) 913176-38-2P 913176-39-3P
(prepn. of .beta. phase-based brass tube with high strength and abrasion resistance)

L29 ANSWER 6 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2006:1125550 HCAPLUS Full-text
DOCUMENT NUMBER: 146:485211
TITLE: Effects of Ni and Si contents on the precipitation behavior of Cu-Ni-Si alloys
AUTHOR(S): Kano, Hirokazu; Sato, Tatsuo; Hirose, Kiyoshige; Eguchi, Tatsuhiko
CORPORATE SOURCE: Graduate School of Science and Engineering, Tokyo Institute of Technology, Japan
SOURCE: Do to Dogokin (2006), 45, 115-119
CODEN: DDOOAW; ISSN: 1347-7234
PUBLISHER: Do oyobi Dogokin Gijutsu Kenkyukai
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
ED Entered STN: 27 Oct 2006
AB The age-hardening, elec. cond. change, pptn. microstructures and grain growth of Cu-2.19%Ni-0.52%Si (in mass%) alloy (Alloy A) and Cu-3.71%Ni-0.87%Si alloy (Alloy B) were studied at various aging conditions. The optimum temp. for the soln. treatment is .apprx.1048 K for Alloy A and 1123-1148 K for Alloy B by taking into consideration of both the soly. of solute elements and grain coarsening. Age-hardenability was highly improved by increasing the amt. of Ni and Si and both the tensile strength and yield strength increased by 100 MPa, although elec. cond. decreased by 5% IACS at peak aging. The improvement of age-hardenability of Alloy B is due to the finer and higher d. pptn. of the Ni2Si phase distributed homogeneously than in Alloy A. The DSC curves indicate that the two pptn. reactions occur. The electron diffraction patterns show that the two phases of Ni2Si and Ni3Si are basically formed in Alloy B. In alloy A, the phase of Ni2Si is predominantly formed. Three dimensional atom probe (3DAP) anal. was performed to examine the compn. of ppts. The compn. of the ppts. is Ni : Si : Cu = 46 : 31 : 22 in the beginning of aging and Ni : Si = 2 : 1 with almost no Cu in the peak aging condition. The vol. fraction of the ppt. (Ni2Si) was estd. based on the elec. cond. change.
IT 12059-14-2, Nickel silicide (Ni2Si)
(effects of Ni and Si contents on pptn. behavior of Cu-Ni-Si alloys)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT 909402-61-5 935853-73-9
(effects of Ni and Si contents on pptn. behavior of Cu-Ni-Si alloys)
RN 909402-61-5 HCAPLUS
CN Copper alloy, base, Cu 95,Ni 3.7,Si 0.9,Zn 0.5,Sn 0.2,Mg 0.1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	3.7	7440-02-0
Si	0.9	7440-21-3
Zn	0.5	7440-66-6
Sn	0.2	7440-31-5
Mg	0.1	7439-95-4

RN 935853-73-9 HCAPLUS

CN Copper alloy, base, Cu 97,Ni 2.2,Si 0.5,Zn 0.5,Mg 0.1,Sn 0.1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	2.2	7440-02-0
Si	0.5	7440-21-3
Zn	0.5	7440-66-6
Mg	0.1	7439-95-4
Sn	0.1	7440-31-5

CC 56-5 (Nonferrous Metals and Alloys)
IT 12059-14-2, Nickel silicide (Ni2Si)
(effects of Ni and Si contents on pptn. behavior of Cu-Ni-Si alloys)
IT 909402-61-5 935853-73-9
(effects of Ni and Si contents on pptn. behavior of Cu-Ni-Si alloys)

L29 ANSWER 7 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2006:1121139 HCAPLUS Full-text
DOCUMENT NUMBER: 147:56232
TITLE: Cast Cu-Ni-Si-Cr-Zr copper alloy: manufacture, structure and application
AUTHOR(S): Mikuszewski, Tomasz
CORPORATE SOURCE: Katedrra Technol. Stopow Met. Komozytow, Politech. Slaska, Katowice, Pol.
SOURCE: Rudy i Metale Niezelazne (2006), 51(6), 333-338
CODEN: RMNZA5; ISSN: 0035-9696
PUBLISHER: Wydawnictwo SIGMA-NOT
DOCUMENT TYPE: Journal
LANGUAGE: Polish
ED Entered STN: 27 Oct 2006
AB The chem. compn. of cast Cu-Ni-Si-Cr-Zr alloy and the role of the alloying addns. were presented. The technol. aspects of manufg. that alloy were discussed in detail. The influences of the melting atm., time, and temp., the crucible type, and the form of charge materials on the structure of the alloy studied were examd. The effect of main casting parameters, i.e. temp. and cooling rate in the casting mold, on the alloy primary structure was also analyzed. Heat treatment conditions and their influence on the alloy secondary structure as well as its hardened phases were detd. Examples of the application of the Cu-Ni-Si-Cr-Zr alloy for casting of fixtures for resistance welding were given.
IT 12059-14-2, Nickel silicide (Ni2Si)
(manuf., structure and application of cast Cu-Ni-Si-Cr-Zr copper alloy)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT 940296-24-2P
(manuf., structure and application of cast Cu-Ni-Si-Cr-Zr copper alloy)
RN 940296-24-2 HCAPLUS
CN Copper alloy, base, Cu 94-96,Ni 2.8-3.4,Cr 0.9-1.3,Si 0.8-1.2,Zr 0-0.1

(CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	94 - 96	7440-50-8
Ni	2.8 - 3.4	7440-02-0
Cr	0.9 - 1.3	7440-47-3
Si	0.8 - 1.2	7440-21-3
Zr	0 - 0.1	7440-67-7

CC 56-3 (Nonferrous Metals and Alloys)
IT 12018-36-9, Chromium silicide (Cr3Si) 12059-14-2, Nickel silicide (Ni2Si) 37308-28-4, Chromium nickel silicide (Cr6Ni16Si7) 61232-36-8, Chromium nickel silicide 66590-84-9, Chromium nickel silicide (Cr13Ni5Si2)
(manuf., structure and application of cast Cu-Ni-Si-Cr-Zr copper alloy)
IT 940296-24-2P
(manuf., structure and application of cast Cu-Ni-Si-Cr-Zr copper alloy)

L29 ANSWER 8 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2006:361678 HCAPLUS Full-text
DOCUMENT NUMBER: 145:381353
TITLE: Rolling contact damage accumulation in two contrasting copper alloys
AUTHOR(S): Medina, Simon; Olver, Andrew V.; Shollock, Barbara A.
CORPORATE SOURCE: Department of Mechanical Engineering, Imperial College, london, SW7 2AZ, UK
SOURCE: Wear (2006), 260(7-8), 794-802
CODEN: WEARAH; ISSN: 0043-1648
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 20 Apr 2006
AB Rolling contact tests were carried out on two Cu alloys with contrasting post-yield properties. The progression of damage was investigated using scanning and transmission electron microscopy. A phosphor bronze alloy showed isotropic hardening and shakedown. In contrast, a pptn.-hardened CuNiSi alloy showed kinematic hardening and ratchetting behavior and had poor resistance to cracking despite having a higher initial yield stress. The damage was found to be assocd. with slip band formation and rapid dissoln. of the Ni2Si ppt. The results are consistent with the findings of earlier investigators on the relationship between wear, fatigue and ratchetting in rolling contact and provide a microstructural explanation for the present system. There is a close parallel with classical fatigue in other pptn.-hardened alloy systems.
IT 39332-81-5
(rolling contact damage accumulation in two copper alloys, i.e phosphor bronze alloy and pptn.-hardened CuNiSi alloy, with contrasting post-yield properties)
RN 39332-81-5 HCAPLUS
CN Copper alloy, base, Cu 85.0-89.0,Sn 11.0-13.0,Ni 0-0.50,P 0-0.30,Pb 0-0.25,Zn 0-0.25,Sb 0-0.20,Fe 0-0.15,S 0-0.05,Al 0-0.005,Si 0-0.005 (UNS C90800) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	85.0 - 89.0	7440-50-8
Sn	11.0 - 13.0	7440-31-5
Ni	0 - 0.50	7440-02-0
P	0 - 0.30	7723-14-0
Pb	0 - 0.25	7439-92-1
Zn	0 - 0.25	7440-66-6
Sb	0 - 0.20	7440-36-0
Fe	0 - 0.15	7439-89-6
S	0 - 0.05	7704-34-9
Al	0 - 0.005	7429-90-5
Si	0 - 0.005	7440-21-3

IT 12059-14-2, Nickel silicide (Ni2Si)
(rolling contact damage accumulation in two copper alloys, i.e phosphor bronze alloy and pptn.-hardened CuNiSi alloy, with contrasting post-yield properties and dissoln. of)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
CC 56-12 (Nonferrous Metals and Alloys)
IT Fatigue, mechanical
Microhardness
Microstructure
Plastic deformation
Rolling {metals}
Slip bands
Stress-strain relationship
(rolling contact damage accumulation in two copper alloys, i.e phosphor bronze alloy and pptn.-hardened CuNiSi alloy, with contrasting post-yield properties)
IT 39332-81-5 848651-06-9
(rolling contact damage accumulation in two copper alloys, i.e phosphor bronze alloy and pptn.-hardened CuNiSi alloy, with contrasting post-yield properties)
IT 12059-14-2, Nickel silicide (Ni2Si)
(rolling contact damage accumulation in two copper alloys, i.e phosphor bronze alloy and pptn.-hardened CuNiSi alloy, with contrasting post-yield properties and dissoln. of)
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 9 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2005:810409 HCAPLUS Full-text
DOCUMENT NUMBER: 144:395765
TITLE: Microstructure and mechanical properties of Cu-Ni-Si alloys
AUTHOR(S): Watanabe, Chihiro; Hiraide, Hiroaki; Zhang, Zuogui; Monzen, Ryoichi

CORPORATE SOURCE: Graduate School of Natural Sci., Kanazawa Univ., Kodatsuno, Kanazawa, 920-8667, Japan
SOURCE: Zairyo (2005), 54(7), 717-723
CODEN: ZARYAQ; ISSN: 0514-5163
PUBLISHER: Nippon Zairyo Gakkai
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
ED Entered STN: 18 Aug 2005
AB The microstructure and mech. properties of thermomech. treated Cu-2.0mass%Ni-0.5mass%Si alloys with and without 0.1mass%Mg were investigated. The Mg addn. increases the formation rate of disk-shaped Ni2Si particles. The Mg addn. produces higher strength and resistance to stress relaxation. The improvement of strength or stress relaxation resistance is caused by the decrease in interparticle spacing by the Mg addn. or by the Mg-atom-drag effect on dislocation motion. The stress relaxation resistance for the Cu-Ni-Si alloy with a large grain size of 150 .mu.m is higher than that for the alloy with a small grain size of 10 .mu.m because the d. of mobile dislocations in the former alloy is lower. The effect of equal channel angular pressing (ECAP) and subsequent heat treatment on the mech. properties of the Cu-Ni-Si alloy was studied also. The heat-treated ECAP alloy shows larger values of 0.2% proof stress and ultimate tensile stress and a slightly smaller value of elongation to failure compared with the thermomech. treated Cu-Ni-Si alloy.
IT 12059-14-2, Nickel silicide (Ni2Si)
(microstructure and mech. properties of thermomech. treated Cu-2 wt.% Ni- 0.5 wt.% Si alloys with and without 0.1 wt.% Mg and effect of equal channel angular pressing and subsequent heat treatment)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT 856008-39-4, Copper 97, magnesium 0.1, nickel 2, silicon 0.5
(microstructure and mech. properties of thermomech. treated Cu-2 wt.% Ni- 0.5 wt.% Si alloys with and without 0.1 wt.% Mg and effect of equal channel angular pressing and subsequent heat treatment)
RN 856008-39-4 HCAPLUS
CN Copper alloy, base, Cu 97,Ni 2,Si 0.5,Mg 0.1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	2	7440-02-0
Si	0.5	7440-21-3
Mg	0.1	7439-95-4

CC 56-12 (Nonferrous Metals and Alloys)
IT 12059-14-2, Nickel silicide (Ni2Si)
(microstructure and mech. properties of thermomech. treated Cu-2 wt.% Ni- 0.5 wt.% Si alloys with and without 0.1 wt.% Mg and effect of equal channel angular pressing and subsequent heat treatment)
IT 105682-88-0, Copper 98, nickel 2, silicon 0.5 856008-39-4, Copper 97, magnesium 0.1, nickel 2, silicon 0.5
(microstructure and mech. properties of thermomech. treated Cu-2 wt.% Ni- 0.5 wt.% Si alloys with and without 0.1 wt.% Mg and effect of equal channel angular pressing and subsequent heat treatment)
OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS

RECORD (4 CITINGS)

L29 ANSWER 10 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2004:925507 HCAPLUS Full-text
DOCUMENT NUMBER: 143:81968
TITLE: Effect of trace addition on microstructure and mechanical properties of a Cu-Ni-Si alloy
AUTHOR(S): Hiraide, Hiroaki; Watanabe, Chihiro; Monzen, Ryoichi; Higashimine, Koichi
CORPORATE SOURCE: Division of Mechanical Systems Engineering, Kanazawa University Graduate School of Natural Science and Engineering, Japan
SOURCE: Do to Dogokin (2004), 43, 107-112
CODEN: DDOOAW; ISSN: 1347-7234
PUBLISHER: Do oyobi Dogokin Gijutsu Kenkyukai
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
ED Entered STN: 04 Nov 2004
AB The microstructure and mech. properties of Cu-2.0%Ni-0.5%Si alloys with and without 0.1% Sn, Ag, and Mg were investigated. The Mg addn. increased most the formation rate of disk-shaped .delta.-Ni2Si particles. The Mg addn. produced the largest increase in strength and the highest resistance to stress relaxation. The improvement of strength or stress relaxation resistance was caused by the decrease in interparticle spacing by the Mg addn. or by the Mg-atom-drag effect on dislocation motion. The stress relaxation resistance for the Cu-Ni-Si alloy with a large grain size of 150 .mu.m was higher than that for the alloy with a small grain size of 10 .mu.m because the d. of mobile dislocations in the former alloy was lower.
IT 856008-38-3 856008-39-4 856008-40-7
(effect of trace addn. on microstructure and mech. properties of Cu-Ni-Si alloy)
RN 856008-38-3 HCAPLUS
CN Copper alloy, base, Cu 97,Ni 2,Si 0.5,Ag 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	2	7440-02-0
Si	0.5	7440-21-3
Ag	0.1	7440-22-4

RN 856008-39-4 HCAPLUS
CN Copper alloy, base, Cu 97,Ni 2,Si 0.5,Mg 0.1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	2	7440-02-0
Si	0.5	7440-21-3
Mg	0.1	7439-95-4

RN 856008-40-7 HCAPLUS
CN Copper alloy, base, Cu 97,Ni 2,Si 0.5,Sn 0.1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	2	7440-02-0
Si	0.5	7440-21-3
Sn	0.1	7440-31-5

IT 12059-14-2, Nickel silicide (Ni2Si)
(particles; effect of trace addn. on microstructure and mech. properties of Cu-Ni-Si alloy)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
CC 56-12 (Nonferrous Metals and Alloys)
IT 404384-77-6 856008-38-3 856008-39-4
856008-40-7
(effect of trace addn. on microstructure and mech. properties of Cu-Ni-Si alloy)
IT 12059-14-2, Nickel silicide (Ni2Si)
(particles; effect of trace addn. on microstructure and mech. properties of Cu-Ni-Si alloy)

L29 ANSWER 11 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2004:245818 HCAPLUS Full-text
DOCUMENT NUMBER: 141:280920
TITLE: Aging procedure of Cu-15Ni-8Sn-0.4Si alloy
AUTHOR(S): Wang, Yan-hui; Wang, Ming-pu; Hong, Bin
CORPORATE SOURCE: Central South University, Changsha, 410083, Peop. Rep. China
SOURCE: Jixie Gongcheng Cailiao (2003), 27(11), 15-17
CODEN: JGCAEL; ISSN: 1000-3738
PUBLISHER: Jixie Gongyebu Shanghai Cailiao Yanjiuso
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
ED Entered STN: 25 Mar 2004
AB By means of measurements of cond. and hardness, metallog. anal., and TEM anal., the change of properties and microstructure of Cu-15Ni-8Sn-0.4Si alloy due to 380.degree. aging was studied. The results show that the pptn. of small Ni2Si particles can restrain the discontinuous pptn. to some degree. With increasing time, the action is weakened. The cond. and hardness of Cu-15Ni-8Sn-0.4Si alloy are higher than those of Cu-15Ni-8Sn alloy.
IT 581805-89-2
(aging procedure of Cu-15Ni-8Sn-0.4Si alloy)
RN 581805-89-2 HCAPLUS
CN Copper alloy, base, Cu 77,Ni 15,Sn 8,Si 0.4 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	77	7440-50-8
Ni	15	7440-02-0
Sn	8	7440-31-5
Si	0.4	7440-21-3

IT 12059-14-2, Nickel silicide (Ni2Si)
(in Cu-15Ni-8Sn-0.4Si alloy)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
CC 56-5 (Nonferrous Metals and Alloys)
IT 581805-89-2
(aging procedure of Cu-15Ni-8Sn-0.4Si alloy)
IT 12059-14-2, Nickel silicide (Ni2Si)
(in Cu-15Ni-8Sn-0.4Si alloy)

L29 ANSWER 12 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2004:83069 HCAPLUS Full-text
DOCUMENT NUMBER: 141:57807
TITLE: Fabrication and characterization of silicon carbide/superalloy interfaces
AUTHOR(S): Li, Junqin; Xiao, Ping
CORPORATE SOURCE: Department of Materials Engineering, Shenzhen University, Shenzhen City, 518060, Peop. Rep. China
SOURCE: Journal of the European Ceramic Society (2004), 24(7), 2149-2156
CODEN: JECSER; ISSN: 0955-2219
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 02 Feb 2004
AB Both silicon carbide ceramic (sintered SiC or reaction-bonded Si-SiC) and Inconel 600 superalloy (Ni72Cr16Fe8 in wt.%) are promising structural materials for high temp. application because of their excellent mech. properties and good high temp. corrosion resistance. The reaction-bond silicon carbide (RBSC) was joined to an Inconel 600 (Ni72Cr16Fe8 in wt.%) superalloy using the diffusion bonding method at 900-1080.degree.. The interfacial reaction between the RBSC and superalloy was investigated using optical and SEM, coupled with energy dispersive X-ray anal. (EDX) and wavelength dispersive spectroscopy (WDS). The reaction products were also studied using X-ray diffraction technique. The mech. properties of the joints were examd. using shear testing. Exptl. results showed that the interfacial reaction products at 900-950.degree. were various silicides with some voids formed in the RBSC. As the bonding temp. increased to 1000.degree., the superalloy/RBSC reactions become more intensive, although some pores in the RBSC were filled by the reaction products. With the bonding temp. increasing to 1080.degree., a thin layer of CrSi2 was formed at superalloy/SiC interface without formation of any pores in the RBSC. The shear strength of this joint was measured as 126 MPa.
IT 12059-14-2, Nickel silicide (Ni2Si)
(phase, interface; fabrication and characterization of silicon carbide/superalloy interfaces)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT 12606-02-9, Inconel 600
(superalloy; fabrication and characterization of silicon carbide/superalloy interfaces)
RN 12606-02-9 HCAPLUS
CN Nickel alloy, base, Ni 72.0-80,Cr 14.0-17.0,Fe 6.0-10.0,Mn 0-1.0,Cu

0-0.5,Si 0-0.5,C 0-0.15,S 0-0.015 (UNS N06600) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Ni	72.0 - 80	7440-02-0
Cr	14.0 - 17.0	7440-47-3
Fe	6.0 - 10.0	7439-89-6
Mn	0 - 1.0	7439-96-5
Cu	0 - 0.5	7440-50-8
Si	0 - 0.5	7440-21-3
C	0 - 0.15	7440-44-0
S	0 - 0.015	7704-34-9

CC 56-9 (Nonferrous Metals and Alloys)
Section cross-reference(s): 57
IT 11105-45-6 12018-09-6, Chromium silicide (CrSi2) 12018-36-9, Chromium silicide (Cr3Si) 12035-57-3, Nickel silicide (NiSi) 12059-14-2, Nickel silicide (Ni2Si) 12059-27-7, Nickel silicide (Ni5Si2) 12201-89-7, Nickel silicide (NiSi2) 66590-82-7, Chromium nickel silicide (Cr3Ni5Si2) 706822-90-4, Chromium nickel carbide silicide (Cr3Ni5CSi1.8)
(phase, interface; fabrication and characterization of silicon carbide/superalloy interfaces)
IT 12606-02-9, Inconel 600
(superalloy; fabrication and characterization of silicon carbide/superalloy interfaces)
OS.CITING REF COUNT: 9 THERE ARE 9 CAPLUS RECORDS THAT CITE THIS RECORD (9 CITINGS)
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 13 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2003:763351 HCAPLUS Full-text
DOCUMENT NUMBER: 140:131874
TITLE: Aging behavior of Cu-Ni-Si alloy
AUTHOR(S): Zhao, Dongmei; Dong, Q. M.; Liu, P.; Kang, B. X.; Huang, J. L.; Jin, Z. H.
CORPORATE SOURCE: School of Materials Science and Engineering, Xi'an Jiaotong University, Xi'an, 710049, Peop. Rep. China
SOURCE: Materials Science & Engineering, A: Structural Materials: Properties, Microstructure and Processing (2003), A361(1-2), 93-99
CODEN: MSAPE3; ISSN: 0921-5093
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 30 Sep 2003
AB TEM and high-resoln. TEM (HREM) were employed to study the microstructure and transformation of Cu-Ni-Si alloy. In Cu-1.0Ni-0.25Si-0.1Zn (wt.%) alloy, the ppt. responsible for the age-hardening effect was the .delta.-Ni2Si originating in nucleation process. On aging at the temp. below .apprx.773 K in Cu-3.2Ni-0.75Si-0.3Zn (wt.%) alloy, there were three different transformation products: a modulated structure resulting from spinodal decompn., a (Cu,Ni)3Si with

D022 ordering structure nucleating from the modulated structure, and a .delta.-Ni2Si phase with disk-like structure appearing in (Ni,Si)-rich regions. Upon aging at the temp. above .apprx.773 K, the transformation products were grain boundary and intragranular pptns. of .delta.-Ni2Si. The free energy vs. compn. curves were employed to further explain the exptl. observations.

IT 151511-92-1 212775-24-1
(aging and pptn. strengthening of Cu-Ni-Si-Zn alloy)

RN 151511-92-1 HCAPLUS

CN Copper alloy, base, Cu 96,Ni 3.2,Si 0.8,Zn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	96	7440-50-8
Ni	3.2	7440-02-0
Si	0.8	7440-21-3
Zn	0.3	7440-66-6

RN 212775-24-1 HCAPLUS

CN Copper alloy, base, Cu 99,Ni 1,Si 0.2,Zn 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	99	7440-50-8
Ni	1	7440-02-0
Si	0.2	7440-21-3
Zn	0.1	7440-66-6

IT 12059-14-2, Nickel silicide Ni2Si
(pptn. of; aging and pptn. strengthening of Cu-Ni-Si-Zn alloy)

RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CC 56-5 (Nonferrous Metals and Alloys)
Section cross-reference(s): 76

IT 151511-92-1 212775-24-1
(aging and pptn. strengthening of Cu-Ni-Si-Zn alloy)

IT 12059-14-2, Nickel silicide Ni2Si 476444-63-0, Copper nickel silicide (Cu,Ni)3Si
(pptn. of; aging and pptn. strengthening of Cu-Ni-Si-Zn alloy)

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 14 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2003:627452 HCAPLUS Full-text

DOCUMENT NUMBER: 140:97528

TITLE: Kinetics of aging process of Cu-3.2Ni-0.75Si-0.30Zn alloy

AUTHOR(S): Zhang, Ling-feng; Liu, Ping; Kang, Bu-xi; Zhao, Dong-mei; Tian, Bao-hong; Dong, Qi-ming

CORPORATE SOURCE: Department of Materials Science and Engineering,

Luoyang Institute of Technology, Luoyang, 471039, Peop. Rep. China
SOURCE: Zhongguo Youse Jinshu Xuebao (2003), 13(3), 717-721
CODEN: ZYJXFK; ISSN: 1004-0609
PUBLISHER: Kexue Chubanshe
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
ED Entered STN: 15 Aug 2003
AB By studying the change of the resistivity in aging process, the kinetics of the aging process of Cu-3.2Ni-0.75Si-0.30Zn alloy was analyzed. The results show that diffusion is the main factor in the deposition of alloy, so in the early stage the enriched area is formed through spinodal decompn., then the process of ordering happened in those fields, and finally the phase of .delta.-Ni2Si is deposited. During aging at higher temp. the driving force of phase transformation becomes the main factor. For the driving force of .delta.-Ni2Si is higher, it can be deposited directly. The transformation of microstructure was studied with TEM, the time-temp.-transformation curve (T-T-T curve) was obtained.
IT 151511-92-1
(kinetics of aging process of Cu-3.2Ni-0.75Si-0.30Zn alloy measured from elec. resistance changes)
RN 151511-92-1 HCAPLUS
CN Copper alloy, base, Cu 96,Ni 3.2,Si 0.8,Zn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	96	7440-50-8
Ni	3.2	7440-02-0
Si	0.8	7440-21-3
Zn	0.3	7440-66-6

IT 12059-14-2, Nickel silicide Ni2Si
(pptn. of; kinetics of aging process of Cu-3.2Ni-0.75Si-0.30Zn alloy measured from elec. resistance changes)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
CC 56-5 (Nonferrous Metals and Alloys)
Section cross-reference(s): 76
IT 151511-92-1
(kinetics of aging process of Cu-3.2Ni-0.75Si-0.30Zn alloy measured from elec. resistance changes)
IT 12059-14-2, Nickel silicide Ni2Si
(pptn. of; kinetics of aging process of Cu-3.2Ni-0.75Si-0.30Zn alloy measured from elec. resistance changes)
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L29 ANSWER 15 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2003:404077 HCAPLUS Full-text
DOCUMENT NUMBER: 139:183812
TITLE: Effect of Si addition on the microstructure and properties of Cu-15Ni-8Sn alloy
AUTHOR(S): Wang, Yanhui; Wang, Mingpu; Hong, Bin; Li, Zhou;

Xu, Genying
CORPORATE SOURCE: Department of Material Science and Engineering, Central South University, Changsha, 410083, Peop. Rep. China
SOURCE: Jinshu Rechuli (2003), 28(1), 41-44
CODEN: JRECDB; ISSN: 0254-6051
PUBLISHER: Jinshu Rechuli Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
ED Entered STN: 28 May 2003
AB The effect of the addn. of Si (at 0.4%) on the microstructure and properties of Cu-15Ni-8Sn alloy was studied by metallog. observation, SEM, TEM, and energy spectrum anal. The results showed that the added Si atoms combine with Ni atoms, forming Ni3Si and Ni2Si. The cond. and hardness of the Si-added alloy were increased during aging, due to the pptn. of the Ni2Si phase.
IT 581805-89-2, Copper 77, nickel 15, silicon 0.4, tin 8
(effect of Si addn. on microstructure and properties of Cu-15Ni-8Sn alloy)
RN 581805-89-2 HCAPLUS
CN Copper alloy, base, Cu 77,Ni 15,Sn 8,Si 0.4 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	77	7440-50-8
Ni	15	7440-02-0
Sn	8	7440-31-5
Si	0.4	7440-21-3

IT 12059-14-2, Nickel silicide Ni2Si
(pptn. hardening by; effect of Si addn. on microstructure and properties of Cu-15Ni-8Sn alloy)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
CC 56-12 (Nonferrous Metals and Alloys)
Section cross-reference(s): 76
IT 70747-62-5 581805-89-2, Copper 77, nickel 15, silicon 0.4, tin 8
(effect of Si addn. on microstructure and properties of Cu-15Ni-8Sn alloy)
IT 12059-14-2, Nickel silicide Ni2Si 12059-22-2, Nickel silicide Ni3Si
(pptn. hardening by; effect of Si addn. on microstructure and properties of Cu-15Ni-8Sn alloy)
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L29 ANSWER 16 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2003:386982 HCAPLUS Full-text
DOCUMENT NUMBER: 138:389136
TITLE: Lead-free copper alloy with good machinability for casting
INVENTOR(S): Kobayashi, Takeshi; Maruyama, Toru
PATENT ASSIGNEE(S): Shiga Barubu Kyodo Kumiai, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003147460	A	20030521	JP 2001-346584 <--	20011112
PRIORITY APPLN. INFO.:			JP 2001-346584 <--	20011112

ED Entered STN: 21 May 2003
AB The Cu alloy contains (1) Si 0.5-2.5 and (2) Mn 0.5-4 and/or Ni 0.5-3.5%, and Mn5Si3 and/or Ni2Si are dispersed in the alloy. The alloy may contain Sn, Al, Zn, and/or P. The harmful Pb-free alloy is suitable for water taps and faucets.
IT 527683-76-7 527683-78-9 527683-80-3
527683-82-5 527683-84-7 527683-86-9
527683-89-2 527683-91-6 527683-94-9
(Pb-free Cu-Si-Mn/Ni alloy with good machinability for casting)
RN 527683-76-7 HCAPLUS
CN Copper alloy, base, Cu 85,Zn 5.7,Sn 4.1,Ni 2.9,Si 2.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	85	7440-50-8
Zn	5.7	7440-66-6
Sn	4.1	7440-31-5
Ni	2.9	7440-02-0
Si	2.2	7440-21-3

RN 527683-78-9 HCAPLUS
CN Copper alloy, base, Cu 86,Zn 5.6,Sn 3.8,Ni 3,Si 1.7 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	86	7440-50-8
Zn	5.6	7440-66-6
Sn	3.8	7440-31-5
Ni	3	7440-02-0
Si	1.7	7440-21-3

RN 527683-80-3 HCAPLUS
CN Copper alloy, base, Cu 87,Zn 5.2,Sn 4,Ni 3.1,Si 0.8 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	87	7440-50-8
Zn	5.2	7440-66-6

Sn	4	7440-31-5
Ni	3.1	7440-02-0
Si	0.8	7440-21-3

RN 527683-82-5 HCAPLUS
CN Copper alloy, base, Cu 87,Zn 5.7,Sn 3.8,Ni 3,Si 0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	87	7440-50-8
Zn	5.7	7440-66-6
Sn	3.8	7440-31-5
Ni	3	7440-02-0
Si	0.5	7440-21-3

RN 527683-84-7 HCAPLUS
CN Copper alloy, base, Cu 82,Zn 11,Mn 3.8,Si 1.5,Ni 1.4 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	82	7440-50-8
Zn	11	7440-66-6
Mn	3.8	7439-96-5
Si	1.5	7440-21-3
Ni	1.4	7440-02-0

RN 527683-86-9 HCAPLUS
CN Copper alloy, base, Cu 84,Zn 8.4,Mn 3.8,Sn 1.7,Ni 1.3,Si 1.3 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	84	7440-50-8
Zn	8.4	7440-66-6
Mn	3.8	7439-96-5
Sn	1.7	7440-31-5
Ni	1.3	7440-02-0
Si	1.3	7440-21-3

RN 527683-89-2 HCAPLUS
CN Copper alloy, base, Cu 84,Zn 7.3,Mn 3.8,Sn 2.7,Ni 1.4,Si 1.3 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	84	7440-50-8
Zn	7.3	7440-66-6
Mn	3.8	7439-96-5
Sn	2.7	7440-31-5
Ni	1.4	7440-02-0

```
    Si          1.3          7440-21-3

RN   527683-91-6  HCAPLUS
CN   Copper alloy, base, Cu 84,Zn 5.3,Sn 4.5,Mn 3.2,Ni 1.5,Si 1.2 (9CI)
     (CA INDEX NAME)

Component   Component      Component
              Percent    Registry Number
=========+=============+===============
    Cu          84           7440-50-8
    Zn           5.3         7440-66-6
    Sn           4.5         7440-31-5
    Mn           3.2         7439-96-5
    Ni           1.5         7440-02-0
    Si           1.2         7440-21-3

RN   527683-94-9  HCAPLUS
CN   Copper alloy, base, Cu 83-84,Zn 5.8,Sn 4.6,Mn 3.1,Ni 1.5,Si 1.4,Fe
     0-0.1,Pb 0-0.1 (9CI)  (CA INDEX NAME)

Component   Component      Component
              Percent    Registry Number
=========+=============+===============
    Cu       83  -  84        7440-50-8
    Zn           5.8         7440-66-6
    Sn           4.6         7440-31-5
    Mn           3.1         7439-96-5
    Ni           1.5         7440-02-0
    Si           1.4         7440-21-3
    Fe        0  -   0.1      7439-89-6
    Pb        0  -   0.1      7439-92-1

IT   12059-14-2, Nickel silicide (Ni2Si)
        (dispersed in alloy; Pb-free Cu-Si-Mn/Ni alloy with good
        machinability for casting)
RN   12059-14-2  HCAPLUS
CN   Nickel silicide (Ni2Si)  (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IPCI C22C0009-10 [ICM,7]; C22C0009-02 [ICS,7]; C22C0009-04 [ICS,7];
     C22C0009-05 [ICS,7]; C22C0009-06 [ICS,7]
IPCR C22C0009-10 [I,A]; C22C0009-02 [I,A]; C22C0009-04 [I,A]; C22C0009-05
     [I,A]; C22C0009-06 [I,A]
CC   56-3 (Nonferrous Metals and Alloys)
IT   527683-76-7   527683-78-9   527683-80-3
     527683-82-5   527683-84-7   527683-86-9
     527683-89-2   527683-91-6   527683-94-9
     527683-96-1
        (Pb-free Cu-Si-Mn/Ni alloy with good machinability for casting)
IT   12033-10-2, Manganese silicide (Mn5Si3)   12059-14-2, Nickel
     silicide (Ni2Si)
        (dispersed in alloy; Pb-free Cu-Si-Mn/Ni alloy with good
        machinability for casting)
OS.CITING REF COUNT:     1     THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
                               RECORD (1 CITINGS)
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L29 ANSWER 17 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2003:375928 HCAPLUS Full-text
DOCUMENT NUMBER: 139:279888
TITLE: Joining reaction-bonded silicon carbide using Inconel 600 superalloy
AUTHOR(S): Li, Junqin; Zhu, Guangming; Xiao, Ping
CORPORATE SOURCE: Department of Materials Science and Engineering, Shenzhen University, Shenzhen, GD518060, Peop. Rep. China
SOURCE: Journal of Materials Science Letters (2003), 22(10), 759-761
CODEN: JMSLD5; ISSN: 0261-8028
PUBLISHER: Kluwer Academic Publishers
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 16 May 2003
AB Reaction bonded SiC ceramics were successfully joined by diffusion bonding at 900-1080.degree. using an Inconel 600 superalloy. The interfacial reaction products at low joining temp. (.ltoreq.1000.degree.) were various silicide layers with some voids formed in the reaction bonded SiC region, resulting in poor shear strength. When the bonding temp. was increased to 1080.degree., a thin layer of CrSi2 was formed at the superalloy/SiC interface without void formation in the reaction bonded SiC region, resulting in high shear strength of 126 MPa.
IT 12059-14-2, Nickel silicide (Ni2Si)
(interface reaction phase; effects of diffusion bonding temp. on interlayer structure and shear strength of reaction-bonded SiC ceramic joints prepd. using Inconel 600 superalloy interlayer)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT 12606-02-9, Nickel alloy, Ni 72.0-80,Cr 14.0-17.0,Fe 6.0-10.0,Mn 0-1.0,Cu 0-0.5,Si 0-0.5,C 0-0.15,S 0-0.015 (UNS N06600)
(interlayer; effects of diffusion bonding temp. on interlayer structure and shear strength of reaction-bonded SiC ceramic joints prepd. using Inconel 600 superalloy interlayer)
RN 12606-02-9 HCAPLUS
CN Nickel alloy, base, Ni 72.0-80,Cr 14.0-17.0,Fe 6.0-10.0,Mn 0-1.0,Cu 0-0.5,Si 0-0.5,C 0-0.15,S 0-0.015 (UNS N06600) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Ni	72.0 - 80	7440-02-0
Cr	14.0 - 17.0	7440-47-3
Fe	6.0 - 10.0	7439-89-6
Mn	0 - 1.0	7439-96-5
Cu	0 - 0.5	7440-50-8
Si	0 - 0.5	7440-21-3
C	0 - 0.15	7440-44-0
S	0 - 0.015	7704-34-9

CC 57-2 (Ceramics)
Section cross-reference(s): 56
IT 12018-09-6, Chromium silicide (CrSi2) 12018-36-9, Chromium silicide cr3si 12035-57-3, Nisi 12059-14-2, Nickel silicide

(Ni2Si) 12201-89-7, Nickel silicide (NiSi2) 66590-82-7, Chromium nickel silicide cr3ni5si2
(interface reaction phase; effects of diffusion bonding temp. on interlayer structure and shear strength of reaction-bonded SiC ceramic joints prepd. using Inconel 600 superalloy interlayer)
IT 12606-02-9, Nickel alloy, Ni 72.0-80,Cr 14.0-17.0,Fe 6.0-10.0,Mn 0-1.0,Cu 0-0.5,Si 0-0.5,C 0-0.15,S 0-0.015 (UNS N06600)
(interlayer; effects of diffusion bonding temp. on interlayer structure and shear strength of reaction-bonded SiC ceramic joints prepd. using Inconel 600 superalloy interlayer)
OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)
REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 18 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2003:229273 HCAPLUS Full-text
DOCUMENT NUMBER: 139:10250
TITLE: Precipitation in Cu-Ni-Si-Zn alloy for lead frame
AUTHOR(S): Huang, Fuxiang; Ma, Jusheng; Ning, Honglong; Cao, YuWen; Geng, Zhiting
CORPORATE SOURCE: Department of Materials Science and Engineering, Tsinghua University, Beijing, 100084, Peop. Rep. China
SOURCE: Materials Letters (2003), 57(13-14), 2135-2139
CODEN: MLETDJ; ISSN: 0167-577X
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 25 Mar 2003
AB The aging of Cu-Ni-Si-Zn alloy for lead frame is investigated. The peak of hardening effect occurred after aging for .apprx.1 h and the elec. cond. increased continuously with aging times. The hardness of the alloy reached a peak at 430-460.degree. for 2 h and elec. cond. reached a peak at 500-550.degree. and continuously decreased afterwards. The cold rolling prior to the aging treatment was used to increase the pptn. rate. The ppts. responsible for the age-hardening effect are disk-shaped .delta.-Ni2Si particles with an orthorhombic structure.
IT 108000-85-7
(pptn. hardening and el. cond. of Cu-Ni-Si-Zn alloy for lead frame)
RN 108000-85-7 HCAPLUS
CN Copper alloy, base, Cu 96,Ni 3.2,Si 0.7,Zn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	96	7440-50-8
Ni	3.2	7440-02-0
Si	0.7	7440-21-3
Zn	0.3	7440-66-6

IT 12059-14-2, Nickel silicide (Ni2Si)
(pptn. hardening and el. cond. of Cu-Ni-Si-Zn alloy for lead frame)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
CC 56-8 (Nonferrous Metals and Alloys)
Section cross-reference(s): 76
IT 108000-85-7
(pptn. hardening and el. cond. of Cu-Ni-Si-Zn alloy for lead frame)
IT 12059-14-2, Nickel silicide (Ni2Si)
(pptn. hardening and el. cond. of Cu-Ni-Si-Zn alloy for lead frame)
OS.CITING REF COUNT: 16 THERE ARE 16 CAPLUS RECORDS THAT CITE THIS RECORD (16 CITINGS)
REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 19 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2003:73700 HCAPLUS Full-text
DOCUMENT NUMBER: 138:258545
TITLE: Transformation and strengthening of early stage of aging in Cu-3.2Ni-0.75Si alloy
AUTHOR(S): Zhao, Dong-mei; Dong, Qi-ming; Liu, Ping; Kang, Bu-xi; Huang, Jin-liang; Tian, Bao-hong; Jin, Zhi-hao
CORPORATE SOURCE: School of Materials Science and Engineering, Xi'an Jiaotong University, Xi'an, 710049, Peop. Rep. China
SOURCE: Zhongguo Youse Jinshu Xuebao (2002), 12(6), 1167-1171
CODEN: ZYJXFK; ISSN: 1004-0609
PUBLISHER: Zhongguo Youse Jinshu Xuebao Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
ED Entered STN: 30 Jan 2003
AB The transformation of the early stage of aging in Cu-3.2Ni-0.75Si alloy was investigated by TEM and X-ray diffraction. It is shown that the supersatd. soln. Cu-Ni-Si alloy first decomps. into solute-rich and solute-depleted zones by spinodal mechanism, then the solute-rich zones form Ni2Si phases which remain coherent with the matrix. Due to the significant difference in structure between the matrix and the ppt., an Orowan type strengthening mechanism is believed to still operate. The strengthening effect of the spinodal structure aged at 450 .degree.C for 2 h is calcd. to be 342 MPa by using dislocation theory, and that of the Ni2Si phase pptd. in aging at 450 .degree.C for 4 h is about 405 MPa, which are quite consistent with the exptl. data.
IT 12059-14-2, Nickel silicide Ni2Si
(pptn. strengthening by; transformation and strengthening of early stage of aging in Cu-3.2Ni-0.75Si alloy)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT 151511-92-1
(transformation and strengthening of early stage of aging in Cu-3.2Ni-0.75Si alloy)
RN 151511-92-1 HCAPLUS
CN Copper alloy, base, Cu 96,Ni 3.2,Si 0.8,Zn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number

Cu	96	7440-50-8
Ni	3.2	7440-02-0
Si	0.8	7440-21-3
Zn	0.3	7440-66-6

CC 56-5 (Nonferrous Metals and Alloys)
IT 12059-14-2, Nickel silicide Ni2Si
(pptn. strengthening by; transformation and strengthening of early stage of aging in Cu-3.2Ni-0.75Si alloy)
IT 151511-92-1
(transformation and strengthening of early stage of aging in Cu-3.2Ni-0.75Si alloy)
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L29 ANSWER 20 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2002:565032 HCAPLUS Full-text
DOCUMENT NUMBER: 137:266397
TITLE: Study on the ageing process of a super high-strength Cu-Ni-Si alloy
AUTHOR(S): Zhao, Dong-mei; Dong, Qi-ming; Liu, Ping; Kang, Bu-xi; Jin, Zhi-hao
CORPORATE SOURCE: Institute of Materials Science and Engineering, Xi'an Jiaotong University, Xi'an, 710049, Peop. Rep. China
SOURCE: Cailiao Rechuli Xuebao (2002), 23(2), 20-23
CODEN: CRXAAK; ISSN: 1009-6264
PUBLISHER: Cailiao Rechuli Xuebao Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
ED Entered STN: 31 Jul 2002
AB The mechanism of microstructural transformation of Cu-3.2Ni-0.75Si (wt.%) aged at 450.degree.C has been studied using TEM. It is found that the supersatd. Cu-Ni-Si alloy solid soln. first decomps. into rich-solute and depleted-solute regions by spinodal mechanism. Thereafter, the rich-solute region undergoes nucleation and growth transformation to form a Ni2Si which remained semi-coherent with the matrix. After aged for 4h, semi-coherency was broken, while as the hardness of the alloy decreased distinctly. The crit. size (r) of Ni2Si phase in semi-coherent with matrix is calcd. to be about 6 nm in terms of the dislocation theory, which is quite consistent with the expt. data.
IT 151511-92-1
(aging process of super high-strength Cu-Ni-Si alloy)
RN 151511-92-1 HCAPLUS
CN Copper alloy, base, Cu 96,Ni 3.2,Si 0.8,Zn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	96	7440-50-8
Ni	3.2	7440-02-0
Si	0.8	7440-21-3
Zn	0.3	7440-66-6

IT 12059-14-2, Nickel silicide Ni2Si
(pptn. of; aging process of super high-strength Cu-Ni-Si alloy)

RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
CC 56-5 (Nonferrous Metals and Alloys)
IT 151511-92-1
(aging process of super high-strength Cu-Ni-Si alloy)
IT 12059-14-2, Nickel silicide Ni2Si
(pptn. of; aging process of super high-strength Cu-Ni-Si alloy)
OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

L29 ANSWER 21 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2002:494531 HCAPLUS Full-text
DOCUMENT NUMBER: 137:204652
TITLE: Solid-state bonding of silicon carbide to metal using Cr and Ni double-layer plated Mo plate
AUTHOR(S): Komori, Daisuke; Takashima, Toshiyuki; Yamamoto, Tsuyoshi
CORPORATE SOURCE: Department of Mechanical System Engineering, Hokkaido Institute of Technology, Japan
SOURCE: Hokkaido Kogyo Daigaku Kenkyu Kiyo (2002), 30, 183-188
CODEN: HODKDL; ISSN: 0385-0862
PUBLISHER: Hokkaido Kogyo Daigaku
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
ED Entered STN: 02 Jul 2002
AB SiC ceramics were joined to kovar alloy using a Cr/Ni double-layer plated Mo insert. The Cr/Ni double-layer plated Mo insert was annealed at 1373K before joining. The joining was performed at 1273-1473K in a dynamic vacuum atm. The structure and compn. of the reaction layers were investigated by SEM, electron probe microanal., and X-ray diffraction anal. Joining strengths were measured by 4-point bending test. Reaction layers comprising Cr-C (Cr3C2, Cr23C6), Cr-Si (Cr3Si), Ni-Si (Ni2Si), and Cr-Si-C (Cr5-xSi3-zCx+z) were formed between ceramics surface and the Ni-Cr alloy layers. The max. fracture. strength of SiC/Kovar-alloy couples was 250 MPa at room temp.
IT 12059-14-2, Nickel silicide (Ni2Si)
(in solid-state bonding of silicon carbide to metal using Cr and Ni double layer plated Mo plate)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT 39332-67-7, Kovar
(to be joined with SiC; solid-state bonding of silicon carbide to metal using Cr and Ni double layer plated Mo plate)
RN 39332-67-7 HCAPLUS
CN Iron alloy, base, Fe 53,Ni 29,Co 17,Mn 0-0.50,Cr 0-0.20,Cu 0-0.20,Mo 0-0.20,Si 0-0.20,Al 0-0.10,Mg 0-0.10,Ti 0-0.10,Zr 0-0.10,C 0-0.04 (UNS K94610) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Fe	53	7439-89-6

Ni	29			7440-02-0
Co	17			7440-48-4
Mn	0	-	0.50	7439-96-5
Cr	0	-	0.20	7440-47-3
Cu	0	-	0.20	7440-50-8
Mo	0	-	0.20	7439-98-7
Si	0	-	0.20	7440-21-3
Al	0	-	0.10	7429-90-5
Mg	0	-	0.10	7439-95-4
Ti	0	-	0.10	7440-32-6
Zr	0	-	0.10	7440-67-7
C	0	-	0.04	7440-44-0

CC 56-9 (Nonferrous Metals and Alloys)
IT 12012-35-0, Chromium carbide (Cr3C2) 12018-36-9, Chromium silicide (Cr3Si) 12059-14-2, Nickel silicide (Ni2Si) 12105-81-6, Chromium carbide (Cr23C6) 91984-81-5, Chromium carbide silicide (CrCSi)
(in solid-state bonding of silicon carbide to metal using Cr and Ni double layer plated Mo plate)
IT 39332-67-7, Kovar
(to be joined with SiC; solid-state bonding of silicon carbide to metal using Cr and Ni double layer plated Mo plate)

L29 ANSWER 22 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2000:655053 HCAPLUS Full-text
DOCUMENT NUMBER: 133:211591
TITLE: Zirconium and/or titanium micro-alloyed copper alloy
INVENTOR(S): Popa, Enuta Angela; Macovei, Costica; Biris, Vasile; Deak, Francisc; Popa, Constantin; Avasilichioaei, Gheorghe
PATENT ASSIGNEE(S): S.C. Elcond S.A., Rom.
SOURCE: Rom., 5 pp.
CODEN: RUXXA3
DOCUMENT TYPE: Patent
LANGUAGE: Romanian
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
RO 110349	B1	19951229	RO 1995-719 <--	19950414
PRIORITY APPLN. INFO.:			RO 1995-719 <--	19950414

ED Entered STN: 20 Sep 2000
AB Zirconium and/or titanium micro-alloyed copper alloy contg. Ni 2.5-4, Si 0.4-1, Cr 0.2-0.7, Zr 0.01-0.5 and/or Ti 0.01-0.5% rest copper is prepd. by solubilization at 1075.degree. in the forged base alloy, heat treatment at 477-575.degree. for 4 h, followed by slow cooling to ppt. hard silicide phases Ni2Si, Cr3Si, and Cr2Ti(Zr).
IT 12059-14-2, Nickel silicide (Ni2Si)
(ppt.; in heat-treated and slow-cooled zirconium and/or titanium micro-alloyed copper alloy)
RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT 289892-44-0P
(zirconium and/or titanium micro-alloyed copper alloy)
RN 289892-44-0 HCAPLUS
CN Copper alloy, base, Cu 93-97,Ni 2.5-4,Si 0.4-1,Cr 0.2-0.7,Ti 0-0.5,Zr 0-0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	93 - 97	7440-50-8
Ni	2.5 - 4	7440-02-0
Si	0.4 - 1	7440-21-3
Cr	0.2 - 0.7	7440-47-3
Ti	0 - 0.5	7440-32-6
Zr	0 - 0.5	7440-67-7

IPCI C22C0009-06 [ICM,6]; C22F0001-08 [ICS,6]
IPCR C22C0009-06 [I,A]; C22F0001-08 [I,A]
CC 56-2 (Nonferrous Metals and Alloys)
IT 12018-27-8 12018-36-9, Chromium silicide (Cr3Si) 12053-41-7 12059-14-2, Nickel silicide (Ni2Si)
(ppt.; in heat-treated and slow-cooled zirconium and/or titanium micro-alloyed copper alloy)
IT 289892-44-0P
(zirconium and/or titanium micro-alloyed copper alloy)

L29 ANSWER 23 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2000:9073 HCAPLUS Full-text
DOCUMENT NUMBER: 132:155244
TITLE: Effect of Mg addns. on the microstructure and mechanical properties of Cu-Ni-Si alloy
AUTHOR(S): Mizuno, Masataka; Itsumi, Yoshio; Kogura, Tetsuzo; Hamamoto, Takashi
CORPORATE SOURCE: Materials Research Center, Kobe Steel Co., Ltd., Japan
SOURCE: Shindo Gijutsu Kenkyu Kaishi (1999), 38, 291-297
CODEN: SGKEBX; ISSN: 0370-985X
PUBLISHER: Nippon Shindo Kyokai
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
ED Entered STN: 06 Jan 2000
AB The effect of Mg addns. of 0.008-0.2 wt.% on the mech. several properties and microstructure of Cu-1.8Ni-0.4Si-1.1 wt.% Zn alloy was studied. The stress relaxation resistance increases with Mg addn. .ltoreq.0.03 wt.%. However, the effect of addnl. Mg sats. at .apprx.0.1 wt.%. The bend formability decreases with increasing Mg content. In the specimen contg. 0.2wt% Mg, rod-shaped Ni-Si-Mg ppts. 200-500 nm diam. formed on grain boundaries during aging at 737 K, while the ppts. in the grains were Ni2Si. In U-bend specimens, small cracks contg. the Ni-Si-Mg ppts. were obsd. Anal. of the diffraction patterns indicates that the Ni-Si-Mg ppt. has the tetragonal structure. Pptn. of the Ni-Si-Mg compd. depletes the available Mg which improves the stress relaxation resistance. Pptn. of the Ni-Si-Mg compd. decreases the effect of addnl. Mg on the stress relaxation resistance and causes a deterioration in the bend formability.

IT 12059-14-2P, Nickel silicide (Ni2Si)
(effect of Mg addns. on microstructure and mech. properties of Cu-Ni-Si alloy)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT 245432-48-8, Copper 97, nickel 1.8, silicon 0.4, zinc 1.1
(effect of Mg addns. on microstructure and mech. properties of Cu-Ni-Si alloy)
RN 245432-48-8 HCAPLUS
CN Copper alloy, base, Cu 97,Ni 1.8,Zn 1.1,Si 0.4 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	1.8	7440-02-0
Zn	1.1	7440-66-6
Si	0.4	7440-21-3

CC 56-12 (Nonferrous Metals and Alloys)
IT 12059-14-2P, Nickel silicide (Ni2Si) 257934-82-0P, Magnesium nickel silicide
(effect of Mg addns. on microstructure and mech. properties of Cu-Ni-Si alloy)
IT 245432-48-8, Copper 97, nickel 1.8, silicon 0.4, zinc 1.1
(effect of Mg addns. on microstructure and mech. properties of Cu-Ni-Si alloy)
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L29 ANSWER 24 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 1999:148794 HCAPLUS Full-text
DOCUMENT NUMBER: 130:240529
TITLE: Evaluation of halide-activated pack boriding of Inconel 722
AUTHOR(S): Muhammad, W.; Hussain, K.; Tauqir, A.; Haq, A. Ul; Khan, A. Q.
CORPORATE SOURCE: A.Q. Khan Laboratories, Kahuta, Pak.
SOURCE: Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science (1999), 30A(3), 670-675
CODEN: MMTAEB; ISSN: 1073-5623
PUBLISHER: Minerals, Metals & Materials Society
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 09 Mar 1999
AB The Vickers hardness of the boride-contg. coating on annealed Inconel 722 Ni superalloy specimens was higher than that on the annealed and aged specimens. The layer on the annealed and aged specimens was the thickest. The layer consisted of .delta.-Ni2Si, Ni2B and Ni4B3 phases. The abrasive wear resistance of the coated specimens was superior to that of the uncoated Ni alloy. The coated annealed specimens exhibited the highest wear resistance compared to that of the annealed and aged alloy.
IT 12606-12-1, Inconel 722

(evaluation of halide-activated pack boronizing of Inconel 722)
RN 12606-12-1 HCAPLUS
CN Nickel alloy, base, Ni 70.0-79,Cr 14.0-17.0,Fe 5.0-9.0,Ti 2.00-2.75,Al 0.4-1.0,Mn 0-1.0,Si 0-0.7,Cu 0-0.5,C 0-0.08,S 0-0.01 (UNS N07722) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Ni	70.0 - 79	7440-02-0
Cr	14.0 - 17.0	7440-47-3
Fe	5.0 - 9.0	7439-89-6
Ti	2.00 - 2.75	7440-32-6
Al	0.4 - 1.0	7429-90-5
Mn	0 - 1.0	7439-96-5
Si	0 - 0.7	7440-21-3
Cu	0 - 0.5	7440-50-8
C	0 - 0.08	7440-44-0
S	0 - 0.01	7704-34-9

IT 12059-14-2P, Nickel silicide (Ni2Si)
(in evaluation of halide-activated pack boronizing of Inconel 722)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
CC 56-7 (Nonferrous Metals and Alloys)
IT 12606-12-1, Inconel 722
(evaluation of halide-activated pack boronizing of Inconel 722)
IT 12007-01-1P, Nickel boride (ni2b) 12045-67-9P, Nickel boride (ni4b3)
12059-14-2P, Nickel silicide (Ni2Si)
(in evaluation of halide-activated pack boronizing of Inconel 722)
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 25 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 1997:150878 HCAPLUS Full-text
DOCUMENT NUMBER: 126:160795
ORIGINAL REFERENCE NO.: 126:31037a,31040a
TITLE: Copper-nickel-silicon alloys having good solder adhesion, coatability, and easy pickling properties and their manufacture
INVENTOR(S): Myato, Motohisa; Hosokawa, Isao
PATENT ASSIGNEE(S): Kobe Steel Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

JP 08319527 A 19961203 JP 1995-126416 19950525
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JP 3056394 B2 20000626
PRIORITY APPLN. INFO.: JP 1995-126416 19950525
<--

ED Entered STN: 07 Mar 1997
AB The Cu alloys contain Ni 0.4-4.0, Si 0.1-1.0, Zn >1.0 and .ltoreq.2.0, Cr 0.0001-0.01, Mg 0.0001-0.001, and optionally Mn 0.01-0.1, Al 0.0001-0.01, Ca 0.0001-0.0005 and/or Sn 0.2-2.0 wt.% and comprise pptd. Ni2Si having grain size .ltoreq.10 nm and .ltoreq.10 ppm S as an impurity. The alloys are manufd. by hot rolling of Cu alloy ingots at 880-950.degree. to 15 mm thick, water cooling at 700.degree., surface cutting, cold rolling to .ltoreq.1.5 mm thick, continuous annealing of coils at 650-950.degree. for 5 s to 5 min, rapid cooling for soln. treatment, optional cold rolling for draft .ltoreq.50%, pptn. at 450-550.degree. for 5 min to 5 h, and optional cold rolling. The alloys are esp. suitable for use in electronic parts.
IT 186799-38-2 186799-39-3 186799-40-6
186799-41-7 186799-42-8 186799-43-9
(Cu-Ni-Si alloys contg. fine nickel silicide for solder adhesion, coatability, and easy pickling properties and their manuf.)
RN 186799-38-2 HCAPLUS
CN Copper alloy, base, Cu 96,Sn 2,Zn 1.5,Ni 0.4,Si 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	96	7440-50-8
Sn	2	7440-31-5
Zn	1.5	7440-66-6
Ni	0.4	7440-02-0
Si	0.1	7440-21-3

RN 186799-39-3 HCAPLUS
CN Copper alloy, base, Cu 97,Zn 1.2,Ni 1,Sn 1,Si 0.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Zn	1.2	7440-66-6
Ni	1	7440-02-0
Sn	1	7440-31-5
Si	0.2	7440-21-3

RN 186799-40-6 HCAPLUS
CN Copper alloy, base, Cu 97,Ni 1.6,Zn 1,Si 0.4,Sn 0.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	1.6	7440-02-0
Zn	1	7440-66-6

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    Si          0.4          7440-21-3
    Sn          0.2          7440-31-5

RN   186799-41-7  HCAPLUS
CN   Copper alloy, base, Cu 97,Ni 1.8,Zn 1,Si 0.4 (9CI)  (CA INDEX NAME)

Component   Component      Component
              Percent    Registry Number
=========+=============+===============
    Cu          97           7440-50-8
    Ni           1.8         7440-02-0
    Zn           1           7440-66-6
    Si           0.4         7440-21-3

RN   186799-42-8  HCAPLUS
CN   Copper alloy, base, Cu 95,Ni 3.2,Zn 1,Si 0.7 (9CI)  (CA INDEX NAME)

Component   Component      Component
              Percent    Registry Number
=========+=============+===============
    Cu          95           7440-50-8
    Ni           3.2         7440-02-0
    Zn           1           7440-66-6
    Si           0.7         7440-21-3

RN   186799-43-9  HCAPLUS
CN   Copper alloy, base, Cu 93,Ni 4,Zn 2,Si 0.9 (9CI)  (CA INDEX NAME)

Component   Component      Component
              Percent    Registry Number
=========+=============+===============
    Cu          93           7440-50-8
    Ni           4           7440-02-0
    Zn           2           7440-66-6
    Si           0.9         7440-21-3

IT   12059-14-2P, Nickel silicide
       (Cu-Ni-Si alloys contg. fine nickel silicide for solder adhesion,
       coatability, and easy pickling properties and their manuf.)
RN   12059-14-2  HCAPLUS
CN   Nickel silicide (Ni2Si)  (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IPCI C22C0009-06 [ICM,6]; C22F0001-08 [ICS,6]
IPCR C22F0001-08 [I,A]; C22C0009-06 [I,A]; C22F0001-00 [I,A]
CC   56-6 (Nonferrous Metals and Alloys)
     Section cross-reference(s): 76
IT   186799-38-2   186799-39-3   186799-40-6
     186799-41-7   186799-42-8   186799-43-9
       (Cu-Ni-Si alloys contg. fine nickel silicide for solder adhesion,
       coatability, and easy pickling properties and their manuf.)
IT   12059-14-2P, Nickel silicide
       (Cu-Ni-Si alloys contg. fine nickel silicide for solder adhesion,
       coatability, and easy pickling properties and their manuf.)
OS.CITING REF COUNT:     2     THERE ARE 2 CAPLUS RECORDS THAT CITE THIS
                               RECORD (2 CITINGS)
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L29 ANSWER 26 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 1996:561227 HCAPLUS Full-text
DOCUMENT NUMBER: 125:202146
ORIGINAL REFERENCE NO.: 125:37725a,37728a
TITLE: Chemical behavior in diffusion bonding of Si3N4-Ni and Si3N4-superalloy IN-738
AUTHOR(S): Chen, Y. C.; Iwamoto, C.; Ishida, Y.
CORPORATE SOURCE: Dep. of Material Science, The University of Tokyo, Tokyo, Japan
SOURCE: Scripta Materialia (1996), 35(6), 675-681
CODEN: SCMAF7; ISSN: 1359-6462
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 20 Sep 1996
AB Solid state diffusion bonding of Ni/Si3N4 and Ni-based superalloy IN-738/Si3N4 were investigated by TEM. At 1123 K, no reaction products were found at the Ni/Si3N4 bonding interface, even the specimen with a 25 h heat treatment time, while at the IN-738/Si3N4 bonding interface, Cr3Ni2Si, Ni31Si12, .delta.-Ni2Si, and Cr3Si were found. According to thermodn. theory, the N2 pressure near the Ni/Si3N4 interface might be over 102 Pa, and be lower than 10-3 Pa for IN-738/Si3N4. The Cr3Ni2Si was characterized by TEM as the n-phase whose compn. has not been detd. in the Cr-Ni-Si system. Existence of Cr3Ni2Si was thought to be one of the reasons that the N2 atmosphere decreased in IN-738/Si3N4 diffusion bonding. Std. formation energy of Cr3Ni2Si was estd. to be lower than -136 kJ/mol.
IT 12773-70-5, IN 738
(interfacial reaction products in diffusion bonding of Si3N4-Ni and Si3N4-superalloy IN-738)
RN 12773-70-5 HCAPLUS
CN Nickel alloy, base, Ni 58-63,Cr 16,Co 8-9,Al 3.2-3.7,Ti 3.2-3.7,W 2.4-2.8,Mo 1.5-2,Ta 1.5-2,Nb 0.6-1.1,Cu 0-0.5,Fe 0-0.5,Si 0-0.5,C 0-0.2,Mn 0-0.2,Zr 0-0.1 (IN 738) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Ni	58 - 63	7440-02-0
Cr	16	7440-47-3
Co	8 - 9	7440-48-4
Al	3.2 - 3.7	7429-90-5
Ti	3.2 - 3.7	7440-32-6
W	2.4 - 2.8	7440-33-7
Mo	1.5 - 2	7439-98-7
Ta	1.5 - 2	7440-25-7
Nb	0.6 - 1.1	7440-03-1
Cu	0 - 0.5	7440-50-8
Fe	0 - 0.5	7439-89-6
Si	0 - 0.5	7440-21-3
C	0 - 0.2	7440-44-0
Mn	0 - 0.2	7439-96-5
Zr	0 - 0.1	7440-67-7

IT 12059-14-2, Nickel silicide Ni2Si
(reaction product; interfacial reaction products in diffusion bonding of Si3N4-Ni and Si3N4-superalloy IN-738)

RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
CC 56-8 (Nonferrous Metals and Alloys)
Section cross-reference(s): 57
IT 7440-02-0, Nickel, processes 12033-89-5, Silicon nitride, processes 12773-70-5, IN 738
(interfacial reaction products in diffusion bonding of Si3N4-Ni and Si3N4-superalloy IN-738)
IT 11074-83-2, Nickel silicide Ni31Si12 12018-36-9, Chromium silicide Cr3Si 12059-14-2, Nickel silicide Ni2Si 176373-80-1, Chromium nickel silicide Cr3Ni2Si
(reaction product; interfacial reaction products in diffusion bonding of Si3N4-Ni and Si3N4-superalloy IN-738)
OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

L29 ANSWER 27 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 1996:278781 HCAPLUS Full-text
DOCUMENT NUMBER: 124:323282
ORIGINAL REFERENCE NO.: 124:59795a,59798a
TITLE: Reaction products at the interface of IN-738/Si3N4 bond
AUTHOR(S): Chen, Y. C.; Iwamoto, C.; Ishida, Y.
CORPORATE SOURCE: Faculty of Engineering, The University of Tokyo, Tokyo, 113, Japan
SOURCE: Materials Transactions, JIM (1996), 37(3), 189-194
CODEN: MTJIEY; ISSN: 0916-1821
PUBLISHER: Japan Institute of Metals
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 11 May 1996
AB The purpose of this study was to investigate the interface microstructure and reaction products morphol. in solid state diffusion bonding of silicon nitride ceramic/Ni-based superalloy (IN-738) joints. Compds. such as Cr3Si, Ni31Si12, .delta.-Ni2Si and Cr3Ni2Si were identified. A pptd. zone which exists between the reaction products and IN-738 works as a diffusion barrier, the reactive elements of IN-738 seem to be almost blocked from contributing to the formation of Cr3Si, Ni31Si12, .delta.-Ni2Si, and Cr3Ni2Si. The phenomenon of morphol. instability was also explained by Wagner's model. The faceted phases Cr3Ni2Si and .delta.-Ni2Si showed an epitaxial growth along with the Si3N4 matrix.
IT 12059-14-2, Nickel silicide Ni2Si
(interface reaction products; reaction products at the interface of diffusion-bonded Ni alloy/Si3N4 ceramic joint)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT 12773-70-5, IN-738
(reaction products at the interface of diffusion-bonded Ni alloy/Si3N4 ceramic joint)
RN 12773-70-5 HCAPLUS
CN Nickel alloy, base, Ni 58-63,Cr 16,Co 8-9,Al 3.2-3.7,Ti 3.2-3.7,W 2.4-2.8,Mo 1.5-2,Ta 1.5-2,Nb 0.6-1.1,Cu 0-0.5,Fe 0-0.5,Si 0-0.5,C 0-0.2,Mn 0-0.2,Zr 0-0.1 (IN 738) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Ni	58 - 63	7440-02-0
Cr	16	7440-47-3
Co	8 - 9	7440-48-4
Al	3.2 - 3.7	7429-90-5
Ti	3.2 - 3.7	7440-32-6
W	2.4 - 2.8	7440-33-7
Mo	1.5 - 2	7439-98-7
Ta	1.5 - 2	7440-25-7
Nb	0.6 - 1.1	7440-03-1
Cu	0 - 0.5	7440-50-8
Fe	0 - 0.5	7439-89-6
Si	0 - 0.5	7440-21-3
C	0 - 0.2	7440-44-0
Mn	0 - 0.2	7439-96-5
Zr	0 - 0.1	7440-67-7

CC 57-2 (Ceramics)
Section cross-reference(s): 56
IT 11074-83-2, Nickel silicide Ni31Si12 12018-36-9, Chromium silicide Cr3Si 12059-14-2, Nickel silicide Ni2Si 176373-80-1, Chromium nickel silicide (Cr3Ni2Si)
(interface reaction products; reaction products at the interface of diffusion-bonded Ni alloy/Si3N4 ceramic joint)
IT 12773-70-5, IN-738
(reaction products at the interface of diffusion-bonded Ni alloy/Si3N4 ceramic joint)
OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

L29 ANSWER 28 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 1994:514848 HCAPLUS Full-text
DOCUMENT NUMBER: 121:114848
ORIGINAL REFERENCE NO.: 121:20645a,20648a
TITLE: Problems of boronizing nickel-base alloys
AUTHOR(S): Hunger, Hans Joerg; Trute, Gerhard
CORPORATE SOURCE: Elektroschmelzwerk Kempten G.m.b.H., Kempten, Germany
SOURCE: HTM, Haerterei-Technische Mitteilungen (1994), 49(3), 215-18
CODEN: HTMMD5; ISSN: 0341-101X
DOCUMENT TYPE: Journal
LANGUAGE: German
ED Entered STN: 03 Sep 1994
AB Surface hardening of steels with the aid of com. EKabor boronizing agent is a thermochem. B diffusion process that has been practiced successfully for many years. However, when the process is used for Ni-based alloys, the resultant layer is of substandard quality. Expts. and thermodn. calcns. of the reaction processes involved show that 2 competing processes occur during boronizing, namely boronizing and siliconizing. The temp. at which treatment is carried out and the Ni content of the base material det. which of these processes is more likely to occur. The formation of Ni2Si and Ni3Si is due to the compn. of the boronizing powder. Perfect

boride layers can be produced on Ni-based alloys if the boronizing powder does not contain Si.

IT 12766-43-7, Incoloy 825 37301-85-2, Alloy 20
(boronizing of, with Ekabor, silicide formation in)

RN 12766-43-7 HCAPLUS

CN Nickel alloy, base, Ni 38.0-46.0,Fe 22.0-34,Cr 19.5-23.5,Mo 2.5-3.5,Cu 1.5-3.0,Ti 0.6-1.2,Mn 0-1.0,Si 0-0.5,Al 0-0.2,C 0-0.05,S 0-0.03 (UNS N08825) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Ni	38.0 - 46.0	7440-02-0
Fe	22.0 - 34	7439-89-6
Cr	19.5 - 23.5	7440-47-3
Mo	2.5 - 3.5	7439-98-7
Cu	1.5 - 3.0	7440-50-8
Ti	0.6 - 1.2	7440-32-6
Mn	0 - 1.0	7439-96-5
Si	0 - 0.5	7440-21-3
Al	0 - 0.2	7429-90-5
C	0 - 0.05	7440-44-0
S	0 - 0.03	7704-34-9

RN 37301-85-2 HCAPLUS

CN Iron alloy, base, Fe 30-44,Ni 32.00-38.00,Cr 19.00-21.00,Cu 3.00-4.00,Mo 2.00-3.00,Mn 0-2.00,Nb 0-1.00,Si 0-1.00,C 0-0.07,P 0-0.045,S 0-0.035 (UNS N08020) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Fe	30 - 44	7439-89-6
Ni	32.00 - 38.00	7440-02-0
Cr	19.00 - 21.00	7440-47-3
Cu	3.00 - 4.00	7440-50-8
Mo	2.00 - 3.00	7439-98-7
Mn	0 - 2.00	7439-96-5
Nb	0 - 1.00	7440-03-1
Si	0 - 1.00	7440-21-3
C	0 - 0.07	7440-44-0
P	0 - 0.045	7723-14-0
S	0 - 0.035	7704-34-9

IT 12059-14-2P, Nickel silicide (Ni2Si)
(formation of, in boronizing of nickel alloys with ekabor)

RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CC 56-7 (Nonferrous Metals and Alloys)

IT 11107-04-3, DIN 1.4401 12671-82-8, DIN 1.4944 12766-43-7, Incoloy 825 37268-89-6, X15CrNiSi25-20 37301-85-2, Alloy 20
(boronizing of, with Ekabor, silicide formation in)

IT 12059-14-2P, Nickel silicide (Ni2Si) 12059-22-2P, Nickel

silicide (Ni3Si)
(formation of, in boronizing of nickel alloys with ekabor)
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L29 ANSWER 29 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 1994:170878 HCAPLUS Full-text
DOCUMENT NUMBER: 120:170878
ORIGINAL REFERENCE NO.: 120:30067a,30070a
TITLE: Precipitation effects during hot deformation of a copper alloy
AUTHOR(S): Blaz, L.; Evangelista, E.; Niewczas, M.
CORPORATE SOURCE: Dep. Struct. Mech. Solids, Acad. Min. Metall., Krakow, 30-059, Pol.
SOURCE: Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science (1994), 25A(2), 257-66
CODEN: MMTAEB; ISSN: 1073-5623
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 02 Apr 1994
AB Hot compression tests were performed on a previously soln.-treated Cu-3Ni-1Si-0.8Cr-0.1 wt.% Mg alloy below the solvus temp. The effects of pptn. occurring during hot deformation and the accompanying flow stresses were analyzed on the basis of microstructural evolution using optical, scanning, and transmission electron microscopy, and microhardness measurements. The hardening stage was followed by strain-induced localized Ni2Si-ppt. coarsening at the temp. related to the most effective dynamic pptn. Intensive coarsening of ppts. began at grain boundaries. Very fine Ni2Si ppts. were transformed into elongated particles at grain boundaries, producing flow localization, softening, and finally sample fracture.
IT 146955-72-8
(hot compression of, strain-induced ppt. coarsening in)
RN 146955-72-8 HCAPLUS
CN Copper alloy, base, Cu 95,Ni 3,Si 1,Cr 0.8,Mg 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	3	7440-02-0
Si	1	7440-21-3
Cr	0.8	7440-47-3
Mg	0.1	7439-95-4

IT 12059-14-2, Nickel silicide Ni2Si
(ppts. in copper alloy, strain-induced elongation of, in hot deformation)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
CC 56-12 (Nonferrous Metals and Alloys)
IT 146955-72-8
(hot compression of, strain-induced ppt. coarsening in)

IT 12059-14-2, Nickel silicide Ni2Si
(ppts. in copper alloy, strain-induced elongation of, in hot deformation)
OS.CITING REF COUNT: 14 THERE ARE 14 CAPLUS RECORDS THAT CITE THIS RECORD (14 CITINGS)

L29 ANSWER 30 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 1994:169639 HCAPLUS Full-text
DOCUMENT NUMBER: 120:169639
ORIGINAL REFERENCE NO.: 120:29871a,29874a
TITLE: Development of an optimal process for gas-flame spraying of self-fluxing materials
AUTHOR(S): Bykov, V. I.; Kulikov, A. S.; Gubar, E. Ya.; Gnatenko, D. I.; Chastokolenko, P. P.
CORPORATE SOURCE: Cherk. Inzh.-Tekhnol. Inst., Cherkassy, Russia
SOURCE: Vestnik Mashinostroeniya (1993), (7), 35-7
CODEN: VMASAV; ISSN: 0042-4633
DOCUMENT TYPE: Journal
LANGUAGE: Russian
ED Entered STN: 02 Apr 1994
AB The math. design of expts. was used in derivation of the adequate equation of regression which relates the regime parameters with the coating properties. The equation is instrumental in predicting the quality of coating. The optimization of the coating process ensures the high quality coatings manufd. by gas-flame spraying followed by high frequency current fusion.
IT 12718-23-9P, 18KhGT, preparation
(gas-flame spraying of, optimal process for)
RN 12718-23-9 HCAPLUS
CN Iron alloy, base, Fe 96-98,Cr 1.00-1.30,Mn 0.80-1.10,Si 0.17-0.37,Cu 0-0.30,Ni 0-0.30,C 0.17-0.23,Ti 0.03-0.09,P 0-0.035,S 0-0.035 (18KhGT) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Fe	96 - 98	7439-89-6
Cr	1.00 - 1.30	7440-47-3
Mn	0.80 - 1.10	7439-96-5
Si	0.17 - 0.37	7440-21-3
Cu	0 - 0.30	7440-50-8
Ni	0 - 0.30	7440-02-0
C	0.17 - 0.23	7440-44-0
Ti	0.03 - 0.09	7440-32-6
P	0 - 0.035	7723-14-0
S	0 - 0.035	7704-34-9

IT 12059-14-2, Nickel silicide (Ni2Si)
(powder consisting of, for gas-flame spraying of steel)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
CC 55-6 (Ferrous Metals and Alloys)
IT 12718-23-9P, 18KhGT, preparation 37268-90-9P, Steel 45, preparation 72645-39-7, SCh20
(gas-flame spraying of, optimal process for)

IT 12006-79-0, Chromium boride (CrB) 12017-11-7, Cobalt silicide (CoSi) 12059-14-2, Nickel silicide (Ni2Si) 12070-12-1, Tungsten carbide (WC) 12105-81-6, Chromium carbide (Cr23C6)
(powder consisting of, for gas-flame spraying of steel)

L29 ANSWER 31 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 1992:179302 HCAPLUS Full-text
DOCUMENT NUMBER: 116:179302
ORIGINAL REFERENCE NO.: 116:30249a,30252a
TITLE: Melt quenching of copper alloys in strip manufacture for electric apparatus
INVENTOR(S): Hashizume, Kimio; Kitakaze, Keizo; Itou, Takefumi
PATENT ASSIGNEE(S): Mitsubishi Electric Corp., Japan
SOURCE: U.S., 6 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5064611	A	19911112	US 1991-642353 <--	19910117
JP 04009253	A	19920114	JP 1990-108641 <--	19900426
PRIORITY APPLN. INFO.:			JP 1990-108641 A <--	19900426

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
ED Entered STN: 03 May 1992
AB Molten Cu alloys (contg. Ni 1.0-8, P 0.1-0.8, Si 0.06-1.0, and optionally 0.03-0.5% Zn) are quenched at 102-105.degree./s to manuf. a strip having finely dispersed intermetallic compds. (esp. Ni5P2 and Ni2Si). The alloy strip shows uniform etching, formability, and coating, and is suitable for manuf. of elec. connectors, lead frames, and similar parts for elec. app. or integrated circuits. Thus, the molten Cu-1.48 Ni-0.19 P-0.12% Si alloy was quenched at 2.0 .times. 103.degree./s to manuf. a strip 2.0 mm thick, and the strip was cold rolled to 0.25 mm thickness with intermediate annealing and aging. The finished strip showed elec. cond. of 65.3% of Cu std., tensile strength 65.7 kg/mm2, and solder coating stability of >500 h at 150.degree.. The strip formability was better than that of the same alloy cooled at 10.degree./s.
IT 12059-14-2, Nickel silicide (Ni2Si)
(copper alloys contg. pptd., melt quenched strip of, for elec. app. and integrated circuit parts)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT 140634-56-6
(formability of melt-quenched strip of, for elec. app. and integrated circuit parts)
RN 140634-56-6 HCAPLUS
CN Copper alloy, base, Cu 95,Ni 3.9,Si 0.7,P 0.2,Zn 0.2 (9CI) (CA INDEX NAME)

Component Component Component

	Percent	Registry Number
Cu	95	7440-50-8
Ni	3.9	7440-02-0
Si	0.7	7440-21-3
P	0.2	7723-14-0
Zn	0.2	7440-66-6

INCL 420481000
IPCI C22C0001-00 [ICM,5]; C22C0009-04 [ICS,5]; C22C0009-06 [ICS,5];
C22C0009-10 [ICS,5]
IPCR B22D0011-06 [I,A]; B22D0011-00 [I,A]; C22C0009-06 [I,A]
NCL 420/481.000; 420/485.000
CC 56-11 (Nonferrous Metals and Alloys)
Section cross-reference(s): 76
IT 11103-55-2, Nickel phosphide (Ni5P2) 12059-14-2, Nickel silicide (Ni2Si)
(copper alloys contg. pptd., melt quenched strip of, for elec. app. and integrated circuit parts)
IT 124913-59-3 124913-60-6 132675-82-2 140634-55-5 140634-56-6
(formability of melt-quenched strip of, for elec. app. and integrated circuit parts)
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 32 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 1992:157009 HCAPLUS Full-text
DOCUMENT NUMBER: 116:157009
ORIGINAL REFERENCE NO.: 116:26469a,26472a
TITLE: Heat treatment of copper alloys for molding of plastics
INVENTOR(S): Miyato, Motohisa; Hosokawa, Isao
PATENT ASSIGNEE(S): Kobe Steel, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03247744	A	19911105	JP 1990-43526 <--	19900223
PRIORITY APPLN. INFO.:			JP 1990-43526 <--	19900223

ED Entered STN: 17 Apr 1992
AB Cu alloy ingots contg. Ni 0.4-4.0, Si 0.1-1.0, Zn 0.05-1.0, Mg 0.001-<0.01, Mn 0.005-0.2, and Cr, Ti, and/or Zr 0.001-<0.01% are heated for .gtoreq.30 min at .gtoreq.900.degree., hot worked, heated for 5 min-3 h at 650-810.degree., cooled from .gtoreq.600.degree. at 15.degree./s, and annealed for 5 min-4 h at 400-550.degree. to give alloys for molding plastics. Ni2Si ppts. formed in the alloys have small particle size, and molds giving smooth-surfaced mirror-polished plastics are obtained.

IT 12059-14-2, Nickel silicide (Ni2Si) 108000-85-7
122330-19-2
(for molds for plastics)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 108000-85-7 HCAPLUS
CN Copper alloy, base, Cu 96,Ni 3.2,Si 0.7,Zn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	96	7440-50-8
Ni	3.2	7440-02-0
Si	0.7	7440-21-3
Zn	0.3	7440-66-6

RN 122330-19-2 HCAPLUS
CN Copper alloy, base, Cu 98,Ni 1.6,Si 0.4,Zn 0.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	98	7440-50-8
Ni	1.6	7440-02-0
Si	0.4	7440-21-3
Zn	0.2	7440-66-6

IPCI C22F0001-08 [ICM,5]; B29C0033-38 [ICS,5]; C22C0009-06 [ICA,5]
IPCR C22F0001-08 [I,A]; B29C0033-38 [I,A]; C22C0009-06 [I,A]; C22F0001-00 [I,A]
CC 56-5 (Nonferrous Metals and Alloys)
Section cross-reference(s): 38
IT 12059-14-2, Nickel silicide (Ni2Si) 108000-85-7
122330-19-2
(for molds for plastics)

L29 ANSWER 33 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 1989:558757 HCAPLUS Full-text
DOCUMENT NUMBER: 111:158757
ORIGINAL REFERENCE NO.: 111:26407a,26410a
TITLE: Formation of silicon diffusion coatings on metal articles
INVENTOR(S): Cabrera, Alejandro L.; Kirner, John F.; Miller, Robert A.; Pierantozzi, Ronald; Armor, John N.
PATENT ASSIGNEE(S): Air Products and Chemicals, Inc., USA
SOURCE: U.S., 15 pp. Cont.-in-part of U.S. 4,714,632.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

US 4822642	A	19890418	US 1987-119593 <--	19871112
US 4714632	A	19871222	US 1985-807890 <--	19851211
DK 8605922	A	19870612	DK 1986-5922 <--	19861210
ZA 8609325	A	19880831	ZA 1986-9325 <--	19861210
JP 62151554	A	19870706	JP 1986-295679 <--	19861211
JP 63019589	B	19880423		
CN 86108935	A	19870729	CN 1986-108935 <--	19861211
BR 8606145	A	19870922	BR 1986-6145 <--	19861211

PRIORITY APPLN. INFO.: US 1985-807890 A2 19851211 <--

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ED Entered STN: 28 Oct 1989

AB Metal articles are siliconized in an SiH4 atm. contg. H and optionally an inert gas. The metal parts are pretreated in dry H at .ltoreq.1200.degree. to reduce oxide films that may act as a barrier to diffusion, siliconized at 350-1000.degree., and optionally heated in an oxidizing atm. to overlay a SiO2 film. Thus, a Cu strip was preheated in dry H (dew point below -60.degree.) for 0.5 h at 500.degree., and siliconized at 350-500.degree. for 2 h in H-0.1 vol.% SiH4 gas mixt. A siliconized layer (1.7-9.3 .mu.m) was formed that showed the Cu:Si ratio of .apprx.3:1 and an oxidn. resistance in air at 700.degree. of .apprx.60 times higher than the bare Cu.

IT 12059-14-2P, Nickel silicide (Ni2Si)
(formation of, in siliconizing metal)

RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 12606-02-9, Inconel 600 61608-60-4, Hastelloy B-2
(siliconizing of, in silane atm.)

RN 12606-02-9 HCAPLUS

CN Nickel alloy, base, Ni 72.0-80,Cr 14.0-17.0,Fe 6.0-10.0,Mn 0-1.0,Cu 0-0.5,Si 0-0.5,C 0-0.15,S 0-0.015 (UNS N06600) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Ni	72.0 - 80	7440-02-0
Cr	14.0 - 17.0	7440-47-3
Fe	6.0 - 10.0	7439-89-6
Mn	0 - 1.0	7439-96-5
Cu	0 - 0.5	7440-50-8
Si	0 - 0.5	7440-21-3
C	0 - 0.15	7440-44-0
S	0 - 0.015	7704-34-9

RN 61608-60-4 HCAPLUS

CN Nickel alloy, base, Ni 65-74,Mo 26.0-30.0,Fe 0-2.0,Co 0-1.0,Cr 0-1.0,Mn 0-1.0,W 0-1.0,Cu 0-0.50,Si 0-0.10,P 0-0.04,S 0-0.03,C 0-0.02

(UNS N10665) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Ni	65 - 74	7440-02-0
Mo	26.0 - 30.0	7439-98-7
Fe	0 - 2.0	7439-89-6
Co	0 - 1.0	7440-48-4
Cr	0 - 1.0	7440-47-3
Mn	0 - 1.0	7439-96-5
W	0 - 1.0	7440-33-7
Cu	0 - 0.50	7440-50-8
Si	0 - 0.10	7440-21-3
P	0 - 0.04	7723-14-0
S	0 - 0.03	7704-34-9
C	0 - 0.02	7440-44-0

INCL 427255100
IPCI C23C0016-24 [ICM,4]
IPCR C23C0010-02 [I,A]; C23C0010-08 [I,A]; C23C0010-60 [I,A]
NCL 427/255.260; 427/255.180; 427/255.370; 427/255.400; 427/318.000; 427/343.000
CC 56-7 (Nonferrous Metals and Alloys)
IT 11133-70-3P, Platinum silicide (Pt3Si) 12017-11-7P, Cobalt silicide (CoSi) 12018-09-6P, Chromium silicide (CrSi2) 12022-95-6P, Iron silicide (FeSi) 12023-54-0P, Iron silicide (Fe3Si) 12033-37-3P, Molybdenum silicide (Mo3Si) 12039-76-8P, Vanadium silicide (V3Si) 12039-88-2P, Tungsten silicide (WSi2) 12059-14-2P, Nickel silicide (Ni2Si) 12136-78-6P, Molybdenum silicide (MoSi2) 12137-83-6P, Platinum silicide (PtSi) 12137-86-9P, Platinum silicide (Pt2Si)
(formation of, in siliconizing metal)
IT 12604-41-0, A182F9 12606-02-9, Inconel 600 12671-80-6, AISI 302 12675-89-7 12725-29-0, AISI 310 61608-60-4, Hastelloy B-2
(siliconizing of, in silane atm.)
OS.CITING REF COUNT: 7 THERE ARE 7 CAPLUS RECORDS THAT CITE THIS RECORD (7 CITINGS)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 34 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 1989:217586 HCAPLUS Full-text
DOCUMENT NUMBER: 110:217586
ORIGINAL REFERENCE NO.: 110:36043a,36046a
TITLE: Copper alloy for ingot casting for electric or electronic parts
INVENTOR(S): Miyato, Motohisa; Nakajima, Yasuhiro; Saito, Akitoshi; Watari, Masato
PATENT ASSIGNEE(S): Kobe Steel, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63247320	A	19881014	JP 1987-82040 <--	19870402
JP 04038828	B	19920625		
PRIORITY APPLN. INFO.:			JP 1987-82040 <--	19870402

ED Entered STN: 10 Jun 1989
AB The title parts, e.g., lead frames, are made of a high-strength Cu alloy of high elec. cond. and contg. Ni 1.0-3.5; Si 0.2-0.9; Zn 0.1-5.0; Sn (optional) 0.1-2.0; and Mg, Cr, Zr, and/or Ti 0.001-0.01%. The alloy is cast by suppressing the amt. of Ni2Si ppts. in ingots at .ltoreq.0.1% to prevent edge cracking in subsequent hot rolling. Thus, molten Cu alloy contg. Ni 3.21, Si 0.71, Zn 0.30, and Mg 0.005% was semicontinuously cast into an ingot, which was water cooled at 600.degree./min and then hot rolled. The strip product contg. 0.04% Ni2Si showed no edge cracking vs. cracking when the the amt. of Ni2Si ppts. was 0.15-0.22%.
IT 108000-85-7, Copper 96, nickel 3.2, silicon 0.7, zinc 0.3
115674-61-8, Copper 95, nickel 3.2, silicon 0.7, tin 1.2, zinc 0.3
(casting of, suppression of nickel sulfide pptn. in, for hot rolling without cracking)
RN 108000-85-7 HCAPLUS
CN Copper alloy, base, Cu 96,Ni 3.2,Si 0.7,Zn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	96	7440-50-8
Ni	3.2	7440-02-0
Si	0.7	7440-21-3
Zn	0.3	7440-66-6

RN 115674-61-8 HCAPLUS
CN Copper alloy, base, Cu 95,Ni 3.2,Sn 1.2,Si 0.7,Zn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	3.2	7440-02-0
Sn	1.2	7440-31-5
Si	0.7	7440-21-3
Zn	0.3	7440-66-6

IT 12059-14-2, Nickel silicide (Ni2Si)
(prevention of pptn. of, in casting of copper alloys, for hot rolling without cracking)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IPCI C22C0001-02 [ICM,4]; B22D0027-04 [ICA,4]
IPCR B22D0027-04 [I,A]; C22C0001-02 [I,A]; C22C0009-06 [I,A]; H01B0001-02

[I,A]; H01L0023-48 [I,A]
CC 56-3 (Nonferrous Metals and Alloys)
Section cross-reference(s): 76
IT 10000-85-7, Copper 96, nickel 3.2, silicon 0.7, zinc 0.3
11574-61-8, Copper 95, nickel 3.2, silicon 0.7, tin 1.2, zinc 0.3
(casting of, suppression of nickel sulfide pptn. in, for hot rolling without cracking)
IT 12059-14-2, Nickel silicide (Ni2Si)
(prevention of pptn. of, in casting of copper alloys, for hot rolling without cracking)
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L29 ANSWER 35 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 1985:189129 HCAPLUS Full-text
DOCUMENT NUMBER: 102:189129
ORIGINAL REFERENCE NO.: 102:29637a,29640a
TITLE: Effect of chromium on the structure and properties of a copper-nickel-silicon alloy
AUTHOR(S): Spaic, Savo; Marinkovic, Velibor; Klemencic, Anton
CORPORATE SOURCE: FNT Montanistika, Ljubljana, 61000, Yugoslavia
SOURCE: Rudarsko-Metalurski Zbornik (1984), 31(3-4), 377-88
CODEN: RMZBAR; ISSN: 0035-9645
DOCUMENT TYPE: Journal
LANGUAGE: Slovenian
ED Entered STN: 02 Jun 1985
AB The solidification of cast and mech. and elec. properties and microstructures of as-cast and thermomech. treated Cu alloys contg. Ni 0.75-2.46, Si 0.50-1.48, Cr .ltoreq.0.78, and Fe .ltoreq.0.75% were studied by DTA, optical microscopy, TEM, electron microanal., and x-ray and electron diffraction. The Cr addn. strongly affects the microstructure of Cu-Ni-Si alloys; .delta.-Ni2Si, Cr3Si, and Cr6.5Ni2.5 are present, and the max. solid soln. of Ni2Si in .alpha.-phase is decreased due to Cu-Ni2Si quasibinary section. The main consequences of these effects are improved thermal stability and higher elec. cond. of Cu-Ni-Si-Cr alloys as compared to Cu-Ni-Si alloys.
IT 12059-14-2P
(formation of, in copper alloys)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT 96033-62-4 96340-42-0
(solidification and properties of)
RN 96033-62-4 HCAPLUS
CN Copper alloy, base, Cu 95-98,Ni 1.3-2.5,Si 0.5-1.5,Cr 0.2-0.8 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95 - 98	7440-50-8
Ni	1.3 - 2.5	7440-02-0
Si	0.5 - 1.5	7440-21-3
Cr	0.2 - 0.8	7440-47-3

RN 96340-42-0 HCAPLUS
CN Copper alloy, base, Cu 97-98,Ni 0.8-1.3,Si 0.5-0.8,Fe 0.1-0.8,Cr 0.3 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97 - 98	7440-50-8
Ni	0.8 - 1.3	7440-02-0
Si	0.5 - 0.8	7440-21-3
Fe	0.1 - 0.8	7439-89-6
Cr	0.3	7440-47-3

CC 56-8 (Nonferrous Metals and Alloys)
Section cross-reference(s): 76
IT 12018-36-9P 12059-14-2P 66590-84-9P
(formation of, in copper alloys)
IT 96033-62-4 96340-42-0
(solidification and properties of)
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L29 ANSWER 36 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 1985:189030 HCAPLUS Full-text
DOCUMENT NUMBER: 102:189030
ORIGINAL REFERENCE NO.: 102:29625a,29628a
TITLE: Effect of chemical and phase composition on the structure and properties of heat-resistant silicide-strengthened copper alloys
AUTHOR(S): Nikolaev, A. K.; Pruzhinin, I. F.; Revina, N. I.; Rozenberg, V. M.
CORPORATE SOURCE: USSR
SOURCE: Splavy Tugoplavkikh Redk. Met. Rab. Vys. Temp., [Mater. - Vses. Soveshch. Fiz.-Khim. Osn. Sozdaniya Zharoprochn. Met. Mater.] (1984), Meeting Date 1981, 181-5. Editor(s): Savitskii, E. M.; Povarova, K. B. Nauka: Moscow, USSR. CODEN: 53KUAQ
DOCUMENT TYPE: Conference; General Review
LANGUAGE: Russian
ED Entered STN: 02 Jun 1985
AB In a review with 7 refs., properties and microstructure of silicide-strengthened Cu alloys are discussed, esp. Cu-Co-Si and Cu-Ni-Si alloys in which Co2Si and Nii Si are formed. Cu-Co-Si-Cr and Cu-Ni-Si-Cr alloys and formation of Cr3Si and Cr3Co5Si2 are also considered.
IT 12059-14-2P
(formation of, in copper alloy for strengthening)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT 76762-43-1
(microstructure and properties of silicide-strengthened)
RN 76762-43-1 HCAPLUS
CN Copper alloy, base, Cu,Cr,Ni,Si (CA INDEX NAME)

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Component    Component
          Registry Number
=========+===============
    Cu          7440-50-8
    Cr          7440-47-3
    Ni          7440-02-0
    Si          7440-21-3

CC   56-0 (Nonferrous Metals and Alloys)
IT   12018-36-9P   12059-14-2P   12134-03-1P   66588-52-1P
       (formation of, in copper alloy for strengthening)
IT   39376-68-6   72373-10-5   76762-43-1   96340-83-9
       (microstructure and properties of silicide-strengthened)

L29  ANSWER 37 OF 39  HCAPLUS  COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER:        1981:107795  HCAPLUS  Full-text
DOCUMENT NUMBER:         94:107795
ORIGINAL REFERENCE NO.:  94:17559a,17562a
TITLE:                   Effect of composition on the structure and
                         properties of copper-nickel-silicon system alloys
AUTHOR(S):               Nikolaev, A. K.; Pruzhinin, I. F.; Revina, N. I.;
                         Rozernberg, V. M.
CORPORATE SOURCE:        USSR
SOURCE:                  Nauch. Tr. Gos. N.-I. i Proekt. In-t Splavov i
                         Obrab. Tsvet. Met. (1980), (64), 30-6
                         From: Ref. Zh., Metall. 1980, Abstr. No. 12I713
DOCUMENT TYPE:           Journal
LANGUAGE:                Russian
ED   Entered STN:  12 May 1984
AB    Title only translated.
IT   12059-14-2
       (in copper-nickel-silicon alloys, mech. and structural properties
       in relation to)
RN   12059-14-2  HCAPLUS
CN   Nickel silicide (Ni2Si)  (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT   76762-43-1
       (mech. properties of, compn. effect on structure and)
RN   76762-43-1  HCAPLUS
CN   Copper alloy, base, Cu,Cr,Ni,Si  (CA INDEX NAME)

Component    Component
          Registry Number
=========+===============
    Cu          7440-50-8
    Cr          7440-47-3
    Ni          7440-02-0
    Si          7440-21-3

CC   56-7 (Nonferrous Metals and Alloys)
     Section cross-reference(s): 76
IT   12059-14-2
       (in copper-nickel-silicon alloys, mech. and structural properties
       in relation to)
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IT 39376-68-6 76762-43-1
(mech. properties of, compn. effect on structure and)

L29 ANSWER 38 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 1980:643960 HCAPLUS Full-text
DOCUMENT NUMBER: 93:243960
ORIGINAL REFERENCE NO.: 93:39033a,39036a
TITLE: Change of the structure of a copper-nickel-aluminum-silicon-chromium alloy during aging
AUTHOR(S): Teplitskii, M. D.; Iedlinskaya, Z. M.; Chernikova, A. V.
CORPORATE SOURCE: USSR
SOURCE: Nauch. Tr. Gos. N.-i. i Proekt. In-t Splavov i Obrab. Tsvet. Met. (1980), (61), 60-6
From: Ref. Zh., Metall. 1980, Abstr. No. 8I263
DOCUMENT TYPE: Journal
LANGUAGE: Russian
ED Entered STN: 12 May 1984
AB Title only translated.
IT 75789-67-2
(aging of, ppt. during)
RN 75789-67-2 HCAPLUS
CN Copper alloy, base, Cu 83,Ni 12,Al 2.7,Cr 0.9,Si 0.9 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	83	7440-50-8
Ni	12	7440-02-0
Al	2.7	7429-90-5
Cr	0.9	7440-47-3
Si	0.9	7440-21-3

IT 12059-14-2
(dispersion of, in aluminum alloy aging)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
CC 56-6 (Nonferrous Metals and Alloys)
IT 75789-67-2
(aging of, ppt. during)
IT 7440-47-3, uses and miscellaneous 12059-14-2
(dispersion of, in aluminum alloy aging)

L29 ANSWER 39 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 1977:144352 HCAPLUS Full-text
DOCUMENT NUMBER: 86:144352
ORIGINAL REFERENCE NO.: 86:22641a,22644a
TITLE: Study of the properties of bronze Br.KN 1-3 affecting its weldability
AUTHOR(S): Dzhevaga, I. I.; Rychka, P. A.
CORPORATE SOURCE: USSR
SOURCE: Trudy Nikolaevskogo Korablestroitel'nogo Instituta

(1974), 80, 52-7
CODEN: TRNKBI; ISSN: 0372-1256
DOCUMENT TYPE: Journal
LANGUAGE: Russian
ED Entered STN: 12 May 1984
AB The bronze [61431-67-2] (contg. Si 1, Ni 3-3.3, Mn 0.25, Sn 0.03-0.1, Pb 0.014, and Fe 0.1%) is difficult to weld, and crack formation occurs during welding caused by a sharp decrease of the plasticity at 400-600.degree.; the elongation per unit length (.delta.) decreased to .apprx.1%. The weldability of the bronze is improved by hardening at 850.degree. prior to welding, but the strength decreases and .delta. increases to .apprx.30%. The initial mech. properties of the welded joints were restored after tempering at 500.degree., due to the pptn. strengthening by Ni2Si [12059-14-2]. The mech. properties of the forged or rolled billets are anisotropic, whereas both .delta. and tensile strength decrease towards the center of the casting.
IT 12059-14-2
(pptn. of, in bronze, weldability in relation to)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT 61431-67-2
(welding of, tempering effect on mech. properties in relation to)
RN 61431-67-2 HCAPLUS
CN Copper alloy, base, Cu 95-97,Ni 2.4-3.4,Si 0.6-1.1,Mn 0.1-0.4,Sn 0-0.1,Zn 0-0.1 (BrKN1-3) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95 - 97	7440-50-8
Ni	2.4 - 3.4	7440-02-0
Si	0.6 - 1.1	7440-21-3
Mn	0.1 - 0.4	7439-96-5
Sn	0 - 0.1	7440-31-5
Zn	0 - 0.1	7440-66-6

CC 56-9 (Nonferrous Metals and Alloys)
IT 12059-14-2
(pptn. of, in bronze, weldability in relation to)
IT 61431-67-2
(welding of, tempering effect on mech. properties in relation to)

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=> d que l53
L3           44 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  (CU(L)NI(L)SI(L)M
                G(L)SN(L)ZN(L)AG(L)CR)/ELS
L6           46 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L3
L10      143853 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  ANNEALING+PFT,NT/C
                T
L11       34829 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  "ROLLING (METALS)"
                +PFT,NT/CT
L12          12 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L6 AND (L10 OR
                L11)
L13          16 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L6 AND  (PEP OR
                PROC)/RL
L20       80304 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  (CU(L)NI(L)SI)/EL
                S
L21       63949 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L20 AND (MG OR
                SN OR ZN OR AG OR CR)/ELS
L23      109669 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L21
L30             QUE  SPE=ON  ABB=ON  PLU=ON  HEAT? OR WARM? OR HOT# OR CA
                LEFACT? OR TORREFACT? OR PYROL? OR SINTER? OR CALCIN? OR
                AUTOCLAV? OR THERMOL? OR THERMAL? OR TEPEFACT? OR PREHEAT
                ? OR MELT? OR FUSE# OR FUSING# OR FUSION? OR (HIGH## OR H
                EIGHTEN? OR RAIS? OR INCREAS? OR ELEVAT?)(2A)(TEMP# OR TE
                MPERATUR?)
L32        2500 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L23 AND L10
L33         719 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L32 AND L11
L34         591 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L30 AND L33
L35         530 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L34 AND PROC/RL
L37      275044 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  "HEAT TREATMENT"+P
                FT,NT/CT
L38         530 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L35 AND L37
L39         530 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L38 AND PEP/RL
L40          62 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L39 AND ELECTRIC?

L43       27448 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  "ELECTRIC
                APPARATUS"/CT
L44           7 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L40 AND L43
L45           7 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L39 AND L43
L46         171 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L23 AND L43
L47          31 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L46 AND L37
L48          24 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L47 AND PROC/RL
L49          21 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L48 AND (L10 OR
                L11)
L50          21 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L44 OR L45) OR
                L49
L51          10 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L50 AND (1802-2007
                )/PRY,AY,PY
L52          11 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L12 OR L13) AND
                (1802-2007)/PRY,AY,PY
L53          18 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L51 OR L52


=> d 153 1-18 ibib ed abs hitstr hitind

L53  ANSWER 1 OF 18  HCAPLUS  COPYRIGHT 2012 ACS on STN
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ACCESSION NUMBER: 2009:52666 HCAPLUS Full-text
DOCUMENT NUMBER: 150:111954
TITLE: Manufacture of high-strength copper alloys for electric/electronic parts
INVENTOR(S): Nomoto, Noriyuki; Takano, Yasuo
PATENT ASSIGNEE(S): Hitachi Cable, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2009007625	A	20090115	JP 2007-169852 <--	20070628
PRIORITY APPLN. INFO.:			JP 2007-169852 <--	20070628

ED Entered STN: 15 Jan 2009
AB In the title process, Cu base alloys contg. Ni 1.0-4.0, Si 0.2-1.2, and optionally P, Zn, Sn, Mg, Fe, Co, Mn, Zr, Ti, Cr, and/or Ag <2.0 wt.% (as total) are cast, hot-rolled (after retained at 800-950.degree. for .gtoreq.30 min), cold rolled at redn. .gtoreq.15%, tempered at 300-500.degree. for 30 min to 24 h, subjected to final cold rolling, and annealed at 300-550.degree. for 30 s to 3 min to eliminate distortion, wherein change of hardness after the tempering and after the final cold rolling is regulated to .ltoreq.10%. The given Cu alloys have low dimensional change when heated and are useful for lead frames connectors, etc.
IT 222538-87-6 917607-38-6, Copper 97, magnesium 0.1, nickel 2.3, silicon 0.5 1095901-62-4, Copper 98, magnesium 0.1, nickel 1.2, silicon 0.2 1095901-63-5
(manuf. of high-strength copper alloys for elec./electronic parts)
RN 222538-87-6 HCAPLUS
CN Copper alloy, base, Cu 96,Ni 3,Si 0.6,Mg 0.2 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	96	7440-50-8
Ni	3	7440-02-0
Si	0.6	7440-21-3
Mg	0.2	7439-95-4

RN 917607-38-6 HCAPLUS
CN Copper alloy, base, Cu 97,Ni 2.3,Si 0.5,Mg 0.1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	2.3	7440-02-0
Si	0.5	7440-21-3
Mg	0.1	7439-95-4

RN 1095901-62-4 HCAPLUS

CN Copper alloy, base, Cu 98,Ni 1.2,Si 0.2,Mg 0.1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	98	7440-50-8
Ni	1.2	7440-02-0
Si	0.2	7440-21-3
Mg	0.1	7439-95-4

RN 1095901-63-5 HCAPLUS
CN Copper alloy, base, Cu 93-99,Ni 1-4,Ag 0-2,Co 0-2,Cr 0-2,Fe 0-2,Mg 0-2,Mn 0-2,P 0-2,Sn 0-2,Ti 0-2,Zn 0-2,Zr 0-2,Si 0.2-1.2 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	93 - 99	7440-50-8
Ni	1 - 4	7440-02-0
Ag	0 - 2	7440-22-4
Co	0 - 2	7440-48-4
Cr	0 - 2	7440-47-3
Fe	0 - 2	7439-89-6
Mg	0 - 2	7439-95-4
Mn	0 - 2	7439-96-5
P	0 - 2	7723-14-0
Sn	0 - 2	7440-31-5
Ti	0 - 2	7440-32-6
Zn	0 - 2	7440-66-6
Zr	0 - 2	7440-67-7
Si	0.2 - 1.2	7440-21-3

IPCI C22F0001-08 [I,A]; C22C0009-06 [I,A]; C22C0009-10 [I,A]; C22F0001-00 [N,A]
IPCR C22F0001-08 [I,A]; C22C0009-06 [I,A]; C22C0009-10 [I,A]; C22F0001-00 [N,A]
CC 76-2 (Electric Phenomena)
Section cross-reference(s): 56
ST elec electronic high strength copper alloy; copper alloy hot cold rolling tempering annealing; magnesium nickel silicon copper base alloy elec conductor
IT Rolling (metals)
(hot; manuf. of high-strength copper alloys for elec./electronic parts)
IT Annealing
Casting of metals
Cold rolling
Electric apparatus
Electric conductors
Tempering
(manuf. of high-strength copper alloys for elec ./electronic parts)
IT 222538-87-6 917607-38-6, Copper 97, magnesium 0.1, nickel 2.3, silicon 0.5 1095901-62-4, Copper 98, magnesium 0.1, nickel 1.2, silicon 0.2 1095901-63-5

(manuf. of high-strength copper alloys for elec
./electronic parts)

L53 ANSWER 2 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2008:473601 HCAPLUS Full-text
DOCUMENT NUMBER: 148:407600
TITLE: Copper alloy material for electrical/electronic part and process for producing the same
INVENTOR(S): Nakano, Junsuke; Kitazato, Keisuke; Hirai, Takao
PATENT ASSIGNEE(S): The Furukawa Electric Co., Ltd., Japan
SOURCE: PCT Int. Appl., 17pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008044680	A1	20080417	WO 2007-JP69686 <--	20071009
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
JP 2008115465	A	20080522	JP 2007-260386 <--	20071003
EP 2088215	A1	20090812	EP 2007-829424 <--	20071009
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR				
US 20090229716	A1	20090917	US 2009-421128 <--	20090409
KR 2009064473	A	20090618	KR 2009-7008901 <--	20090429
CN 101548025	A	20090930	CN 2007-80044114 <--	20090527
PRIORITY APPLN. INFO.:			JP 2006-276808 A <--	20061010
			JP 2007-260386 A <--	20071003
			WO 2007-JP69686 W <--	20071009

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
ED Entered STN: 17 Apr 2008

AB A copper alloy material obtained by finish-rolling a material at a rate of work of 40% or lower, subjecting the finish-rolled material to a heat treatment with a continuous annealing furnace at a temp. of 500-800.degree.C for 1-100 s, and subjecting the heat-treated material to a stress relieving treatment at a temp. of 400-600.degree.C for 30-1,000 s. The copper alloy material for elec./electronic parts underwent a dimensional change through the stress relieving treatment in the range of -0.02% to +0.02% in each of the directions parallel and perpendicular to the rolling direction.

IT 138599-46-9 222538-87-6 475563-28-1
1016637-49-2 1016637-50-5
(copper alloy material for elec./electronic part and process for prodn.)

RN 138599-46-9 HCAPLUS

CN Copper alloy, base, Cu 96,Ni 2.6,Si 0.6,Zn 0.5 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	96	7440-50-8
Ni	2.6	7440-02-0
Si	0.6	7440-21-3
Zn	0.5	7440-66-6

RN 222538-87-6 HCAPLUS

CN Copper alloy, base, Cu 96,Ni 3,Si 0.6,Mg 0.2 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	96	7440-50-8
Ni	3	7440-02-0
Si	0.6	7440-21-3
Mg	0.2	7439-95-4

RN 475563-28-1 HCAPLUS

CN Copper alloy, base, Cu 96,Ni 2.3,Si 0.5,Zn 0.5,Sn 0.2,Mg 0.1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	96	7440-50-8
Ni	2.3	7440-02-0
Si	0.5	7440-21-3
Zn	0.5	7440-66-6
Sn	0.2	7440-31-5
Mg	0.1	7439-95-4

RN 1016637-49-2 HCAPLUS

CN Copper alloy, base, Cu 94,Ni 3.7,Si 0.9,Zn 0.5,Cr 0.2,Sn 0.2,Mg 0.1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	94	7440-50-8

Ni	3.7	7440-02-0
Si	0.9	7440-21-3
Zn	0.5	7440-66-6
Cr	0.2	7440-47-3
Sn	0.2	7440-31-5
Mg	0.1	7439-95-4

RN 1016637-50-5 HCAPLUS
CN Copper alloy, base, Cu 92-98,Ni 1.5-4.5,Si 0.4-1,Zn 0-1,Sn 0-0.5,Cr 0-0.4,Mg 0-0.2,Ag 0-0.1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	92 - 98	7440-50-8
Ni	1.5 - 4.5	7440-02-0
Si	0.4 - 1	7440-21-3
Zn	0 - 1	7440-66-6
Sn	0 - 0.5	7440-31-5
Cr	0 - 0.4	7440-47-3
Mg	0 - 0.2	7439-95-4
Ag	0 - 0.1	7440-22-4

IPCI C22C0009-06 [I,A]; B21B0001-22 [I,A]; B21B0003-00 [I,A]; C22F0001-08 [I,A]; H01B0001-02 [I,A]; H01B0005-02 [I,A]; H01B0013-00 [I,A]; C22F0001-00 [N,A]
IPCR C22C0009-06 [I,A]; B21B0001-22 [I,A]; B21B0003-00 [I,A]; C22F0001-00 [N,A]; C22F0001-08 [I,A]; H01B0001-02 [I,A]; H01B0005-02 [I,A]; H01B0013-00 [I,A]
CC 56-11 (Nonferrous Metals and Alloys)
ST copper alloy rolling stress relieving annealing elec part
IT Annealing
Electric apparatus
Heat treatment
Rolling (metals)
(copper alloy material for elec./electronic part and process for prodn.)
IT Stress, mechanical
(relieving; copper alloy material for elec./electronic part and process for prodn.)
IT Copper alloy, base
(copper alloy material for elec./electronic part and process for prodn.)
IT 138599-46-9 222538-87-6 475563-28-1
1016637-49-2 1016637-50-5
(copper alloy material for elec./electronic part and process for prodn.)
REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L53 ANSWER 3 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2008:319355 HCAPLUS Full-text
DOCUMENT NUMBER: 148:336504
TITLE: Method for manufacturing wire rod, apparatus for manufacturing wire rod, and copper alloy wire

INVENTOR(S): Takahashi, Isao; Kitazato, Keisuke
PATENT ASSIGNEE(S): The Furukawa Electric Co., Ltd., Japan
SOURCE: PCT Int. Appl., 55pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008029855	A1	20080313	WO 2007-JP67335 <--	20070905
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
JP 2008088549	A	20080417	JP 2007-228218 <--	20070903
EP 2060651	A1	20090520	EP 2007-806777 <--	20070905
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, RS				
KR 2009078787	A	20090720	KR 2009-7006845 <--	20070905
MX 2009002465	A	20090626	MX 2009-2465 <--	20090305
US 20090229715	A1	20090917	US 2009-398743 <--	20090305
CN 101535520	A	20090916	CN 2007-80040717 <--	20090430
PRIORITY APPLN. INFO.:			JP 2006-240150 <--	A 20060905
			JP 2006-240151 <--	A 20060905
			JP 2007-228218 <--	A 20070903
			WO 2007-JP67335 <--	W 20070905

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
ED Entered STN: 14 Mar 2008
AB This invention provides an app. for manufg. a wire rod, comprising a wire rod feeding device, a wire rod winding device, and a running annealing device provided between the wire rod feeding device and the wire rod winding device, in which an aging pptn.-type copper alloy wire rod is folded back along a passage and is passed. The app. for manufg. a wire rod may further comprises an elec. heating annealing device

for raising the temp. of the aging pptn.-type copper alloy wire rod in tandem on the upstream side of the running annealing device. Another elec. heating device for conducting solid soln. treatment of the aging pptn.-type copper alloy wire rod may be further provided in tandem on the upstream side of the running annealing device. Alternatively, instead of the running annealing device, the elec. heating device may be connected in tandem to constitute a running heating device for aging treatment. The use of these devices can realize the provision of an aging pptn.-type copper alloy wire having a diam. in the range of not less than 0.03 mm and not more than 3 mm.

IT 1010805-96-5
(method for manufg. wire rod, app. for manufg. wire rod, and copper alloy wire)

RN 1010805-96-5 HCAPLUS

CN Copper alloy, base, Cu 94-98,Ni 1.5-4,Si 0.3-1.1,Ag 0-1,Co 0-1,Cr 0-1,Fe 0-1,Mg 0-1,Mn 0-1,P 0-1,Sn 0-1,Zn 0-1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	94 - 98	7440-50-8
Ni	1.5 - 4	7440-02-0
Si	0.3 - 1.1	7440-21-3
Ag	0 - 1	7440-22-4
Co	0 - 1	7440-48-4
Cr	0 - 1	7440-47-3
Fe	0 - 1	7439-89-6
Mg	0 - 1	7439-95-4
Mn	0 - 1	7439-96-5
P	0 - 1	7723-14-0
Sn	0 - 1	7440-31-5
Zn	0 - 1	7440-66-6

IPCI C22F0001-08 [I,A]; C22C0009-00 [I,A]; C22C0009-06 [I,A]; H01B0013-00 [I,A]; C22F0001-00 [N,A]

IPCR C22F0001-08 [I,A]; C22C0009-00 [I,A]; C22C0009-06 [I,A]; C22F0001-00 [N,A]; H01B0013-00 [I,A]

CC 56-11 (Nonferrous Metals and Alloys)
Section cross-reference(s): 76

IT Aging, materials
Annealing
Electric conductivity
Electric heating
Heat treatment
Precipitation hardening
Tensile strength
Wires
(method for manufg. wire rod, app. for manufg. wire rod, and copper alloy wire)

IT 12639-35-9 12667-72-0 12700-61-7 12782-69-3 12792-77-7 39305-72-1 57919-23-0 67256-86-4 68600-49-7 77088-15-4 82088-17-3 99313-15-2 115180-41-1 115569-51-2 134007-85-5 142567-44-0 153693-94-8 173926-91-5 199127-32-7 245432-47-7 1010805-75-0 1010805-76-1 1010805-77-2 1010805-78-3 1010805-79-4 1010805-80-7 1010805-81-8 1010805-82-9 1010805-83-0 1010805-84-1 1010805-85-2 1010805-86-3 1010805-87-4 1010805-88-5 1010805-89-6 1010805-90-9

1010805-91-0 1010805-92-1 1010805-93-2 1010805-94-3
1010805-95-4 1010805-96-5 1010805-97-6 1010805-98-7
1010805-99-8
(method for manufg. wire rod, app. for manufg. wire rod, and copper alloy wire)
REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L53 ANSWER 4 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2007:1175830 HCAPLUS Full-text
DOCUMENT NUMBER: 147:473060
TITLE: Composition and manufacture of copper-nickel-silicon-zinc alloy for electric and electronic parts
INVENTOR(S): Yamagishi, Yoshinori; Gao, Wei Lin; Suda, Hisashi
PATENT ASSIGNEE(S): Dowa Holdings Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 17pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007270286	A	20071018	JP 2006-98082 <--	20060331
PRIORITY APPLN. INFO.:			JP 2006-98082 <--	20060331

ED Entered STN: 18 Oct 2007
AB The alloy comprises Ni 0.4-4.5, Si 0.15-0.9, Zn 5-15, H .ltoreq.0.0003, S .ltoreq.0.002%, and Cu bal. with the d. of voids and Ni-Si based ppts. (size .gtoreq.3 .mu.m) being .ltoreq.20/mm2. The alloy may further contain Sn .ltoreq.2, P .ltoreq.0.2, and Fe .ltoreq.1, Mg .ltoreq.0.5, Co .ltoreq.4, Cr .ltoreq.4, and/or B .ltoreq.0.1%. The alloy has a tensile strength of .gtoreq.730 N/mm2 and an elec. cond. of .gtoreq.25%IACS. The alloy is manufd. by melting, casting, hot rolling, cold rolling, soln. heat treating, and aging.
IT 919990-02-6P, Ni 1.3, Si 0.3, Zn 6.6, Cu bal.
919990-03-7P, Ni 2.2, Si 0.5, Zn 7.2, Cu bal.
919990-04-8P, Ni 2.2, Si 0.3, Zn 7.7, Sn 0.2, Cu bal.
919990-05-9P, Ni 3, Si 0.5, Zn 10, Sn 0.3, Cu bal.
919990-06-0P, Ni 1.9, Si 0.4, Zn 8.6, Sn 0.3, Co 0.4, Cu bal.
919990-08-2P, Ni 2.1, Si 0.4, Zn 5.4, Sn 0.3, Cu bal.
952686-86-1P, Ni 2.1, Si 0.4, Zn 5.6, Cu bal.
952686-87-2P, Ni 2.6, Si 0.5, Zn 7.4, Sn 0.5, Cr 1.4, Cu bal.
952686-88-3P, Ni 3.2, Si 0.6, Zn 6, Sn 0.4, Cu bal.
952686-89-4P, Ni 1.7, Si 0.5, Zn 7.1, Sn 0.6, Mg 0.2, Cu bal.
952686-90-7P, Ni 0.4-4.5, Si 0.2-0.9, Zn 5-15, Sn 0-2, P 0-0.2, Fe 0-1, Mg 0-0.5, Co 0-4, Cr 0-4, B 0-0.1, Cu bal.
(compn. and manuf. of copper-nickel-silicon-zinc alloy for elec. and electronic parts)
RN 919990-02-6 HCAPLUS
CN Copper alloy, base, Cu 92,Zn 6.6,Ni 1.3,Si 0.3 (CA INDEX NAME)

Component Component Component

	Percent	Registry Number
Cu	92	7440-50-8
Zn	6.6	7440-66-6
Ni	1.3	7440-02-0
Si	0.3	7440-21-3

RN 919990-03-7 HCAPLUS
CN Copper alloy, base, Cu 90,Zn 7.2,Ni 2.2,Si 0.5 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	90	7440-50-8
Zn	7.2	7440-66-6
Ni	2.2	7440-02-0
Si	0.5	7440-21-3

RN 919990-04-8 HCAPLUS
CN Copper alloy, base, Cu 90,Zn 7.7,Ni 2.2,Si 0.3,Sn 0.2 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	90	7440-50-8
Zn	7.7	7440-66-6
Ni	2.2	7440-02-0
Si	0.3	7440-21-3
Sn	0.2	7440-31-5

RN 919990-05-9 HCAPLUS
CN Copper alloy, base, Cu 86,Zn 10,Ni 3,Si 0.5,Sn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	86	7440-50-8
Zn	10	7440-66-6
Ni	3	7440-02-0
Si	0.5	7440-21-3
Sn	0.3	7440-31-5

RN 919990-06-0 HCAPLUS
CN Copper alloy, base, Cu 88,Zn 8.6,Ni 1.9,Co 0.4,Si 0.4,Sn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	88	7440-50-8
Zn	8.6	7440-66-6
Ni	1.9	7440-02-0
Co	0.4	7440-48-4
Si	0.4	7440-21-3
Sn	0.3	7440-31-5

RN 919990-08-2 HCAPLUS
CN Copper alloy, base, Cu 92,Zn 5.4,Ni 2.1,Si 0.4,Sn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	92	7440-50-8
Zn	5.4	7440-66-6
Ni	2.1	7440-02-0
Si	0.4	7440-21-3
Sn	0.3	7440-31-5

RN 952686-86-1 HCAPLUS
CN Copper alloy, base, Cu 92,Zn 5.6,Ni 2.1,Si 0.4 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	92	7440-50-8
Zn	5.6	7440-66-6
Ni	2.1	7440-02-0
Si	0.4	7440-21-3

RN 952686-87-2 HCAPLUS
CN Copper alloy, base, Cu 88,Zn 7.4,Ni 2.6,Cr 1.4,Si 0.5,Sn 0.5 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	88	7440-50-8
Zn	7.4	7440-66-6
Ni	2.6	7440-02-0
Cr	1.4	7440-47-3
Si	0.5	7440-21-3
Sn	0.5	7440-31-5

RN 952686-88-3 HCAPLUS
CN Copper alloy, base, Cu 90,Zn 6,Ni 3.2,Si 0.6,Sn 0.4 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	90	7440-50-8
Zn	6	7440-66-6
Ni	3.2	7440-02-0
Si	0.6	7440-21-3
Sn	0.4	7440-31-5

RN 952686-89-4 HCAPLUS
CN Copper alloy, base, Cu 90,Zn 7.1,Ni 1.7,Sn 0.6,Si 0.5,Mg 0.2 (CA INDEX NAME)

Component	Component Percent	Component Registry Number

Cu	90	7440-50-8
Zn	7.1	7440-66-6
Ni	1.7	7440-02-0
Sn	0.6	7440-31-5
Si	0.5	7440-21-3
Mg	0.2	7439-95-4

RN 952686-90-7 HCAPLUS
CN Copper alloy, base, Cu 68-94,Zn 5-15,Ni 0.4-4.5,Co 0-4,Cr 0-4,Sn 0-2,Fe 0-1,Si 0.2-0.9,Mg 0-0.5,P 0-0.2,B 0-0.1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	68 - 94	7440-50-8
Zn	5 - 15	7440-66-6
Ni	0.4 - 4.5	7440-02-0
Co	0 - 4	7440-48-4
Cr	0 - 4	7440-47-3
Sn	0 - 2	7440-31-5
Fe	0 - 1	7439-89-6
Si	0.2 - 0.9	7440-21-3
Mg	0 - 0.5	7439-95-4
P	0 - 0.2	7723-14-0
B	0 - 0.1	7440-42-8

IPCI C22C0009-04 [I,A]; C22F0001-08 [I,A]; C22F0001-00 [N,A]; H01B0001-02 [N,A]
IPCR C22C0009-04 [I,A]; C22F0001-00 [N,A]; C22F0001-08 [I,A]; H01B0001-02 [N,A]
CC 56-3 (Nonferrous Metals and Alloys)
IT Electric apparatus
Semiconductor devices
(compn. and manuf. of copper-nickel-silicon-zinc alloy for elec. and electronic parts)
IT Rolling (metals)
(hot; in manuf. of copper-nickel-silicon-zinc alloy for elec. and electronic parts)
IT Aging, materials
Casting of metals
Cold rolling
Melting
(in manuf. of copper-nickel-silicon-zinc alloy for elec. and electronic parts)
IT Heat treatment
(soln.; in manuf. of copper-nickel-silicon-zinc alloy for elec. and electronic parts)
IT 919990-02-6P, Ni 1.3, Si 0.3, Zn 6.6, Cu bal.
919990-03-7P, Ni 2.2, Si 0.5, Zn 7.2, Cu bal.
919990-04-8P, Ni 2.2, Si 0.3, Zn 7.7, Sn 0.2, Cu bal.
919990-05-9P, Ni 3, Si 0.5, Zn 10, Sn 0.3, Cu bal.
919990-06-0P, Ni 1.9, Si 0.4, Zn 8.6, Sn 0.3, Co 0.4, Cu bal.
919990-08-2P, Ni 2.1, Si 0.4, Zn 5.4, Sn 0.3, Cu bal.
952686-86-1P, Ni 2.1, Si 0.4, Zn 5.6, Cu bal.
952686-87-2P, Ni 2.6, Si 0.5, Zn 7.4, Sn 0.5, Cr 1.4, Cu bal.
952686-88-3P, Ni 3.2, Si 0.6, Zn 6, Sn 0.4, Cu bal.

952686-89-4P, Ni 1.7, Si 0.5, Zn 7.1, Sn 0.6, Mg 0.2, Cu bal.
952686-90-7P, Ni 0.4-4.5, Si 0.2-0.9, Zn 5-15, Sn 0-2, P 0-0.2, Fe 0-1, Mg 0-0.5, Co 0-4, Cr 0-4, B 0-0.1, Cu bal.
(compn. and manuf. of copper-nickel-silicon-zinc alloy for elec. and electronic parts)

L53 ANSWER 5 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2007:378542 HCAPLUS Full-text
DOCUMENT NUMBER: 146:384702
TITLE: Backing plate from copper alloy and manufacture thereof
INVENTOR(S): Tung, Chin Pin; Nomoto, Noriyuki; Takada, Akira; Ishida, Kazuo; Okano, Masaki; Odakura, Masami; Kodaira, Muneo; Nomura, Katsumi
PATENT ASSIGNEE(S): Hitachi Cable, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 13pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007084928	A	20070405	JP 2006-227895 <--	20060824
PRIORITY APPLN. INFO.:			JP 2005-245317 A <--	20050826

ED Entered STN: 05 Apr 2007
AB A backing plate is from a Cu alloy contg. Ni 1.0-5.0 and Si 0.2-1.0%, at Ni/Si 3.5-5.5, and also Zn, Sn, P, Fe, Mg, Cr, Zr, Ti, Mn, and/or Ag 0.01-3.0 wt.%. The max. crystal grain size of the alloy is .ltoreq.0.06 mm. The alloy contains no inclusions with a diam. >0.005 mm and has a thermal cond. of .gtoreq.170 W/m.cntdot.K. The backing plate has a 0.2% yield strength of .gtoreq.600 MPa and a Young's modulus of .gtoreq.125 GPa. The backing plate is manufd. by casting the alloy, holding at .gtoreq.30 min at .gtoreq.800.degree., hot rolling at .gtoreq.50%, soln treating by cooling at .gtoreq.20.degree./min from 600 to 250.degree., and aging by holding for 0.5-12 h at 300-600.degree.. The plate is suitable for cooling target materials in sputtering app. and the like.
IT 931127-06-9
(backing plate from copper alloy and manuf. thereof)
RN 931127-06-9 HCAPLUS
CN Copper alloy, base, Cu 91-99,Ni 1-5,Ag 0-3,Cr 0-3,Fe 0-3,Mg 0-3,Mn 0-3,P 0-3,Sn 0-3,Ti 0-3,Zn 0-3,Zr 0-3,Si 0.2-1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	91 - 99	7440-50-8
Ni	1 - 5	7440-02-0
Ag	0 - 3	7440-22-4
Cr	0 - 3	7440-47-3
Fe	0 - 3	7439-89-6
Mg	0 - 3	7439-95-4
Mn	0 - 3	7439-96-5
P	0 - 3	7723-14-0

Sn	0	-	3	7440-31-5
Ti	0	-	3	7440-32-6
Zn	0	-	3	7440-66-6
Zr	0	-	3	7440-67-7
Si	0.2	-	1	7440-21-3

IPCI C22C0009-06 [I,A]; C22F0001-08 [I,A]; B21B0003-00 [I,A]; B21B0001-26 [I,A]; C23C0014-34 [I,A]; C22F0001-00 [N,A]
IPCR C22C0009-06 [I,A]; B21B0001-26 [I,A]; B21B0003-00 [I,A]; C22F0001-00 [N,A]; C22F0001-08 [I,A]; C23C0014-34 [I,A]
CC 56-3 (Nonferrous Metals and Alloys)
IT 931127-01-4 931127-02-5 931127-03-6 931127-04-7 931127-05-8 931127-06-9
(backing plate from copper alloy and manuf. thereof)

L53 ANSWER 6 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2006:1229039 HCAPLUS Full-text
DOCUMENT NUMBER: 145:509145
TITLE: Ferritic free-cutting stainless steel for electronic devices
INVENTOR(S): Ishikawa, Koichi; Shimizu, Tetsuya
PATENT ASSIGNEE(S): Daido Steel Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006316310	A	20061124	JP 2005-139309 <--	20050512
PRIORITY APPLN. INFO.:			JP 2005-139309 <--	20050512

ED Entered STN: 24 Nov 2006
AB The steel comprises C 0.005-0.10, Si 0.01-2.0, Mn 0.10-1.5, P 0.010-0.10, S 0.05-0.50, Cu 0.05-2.0, Ni 0.05-2.0, Cr 16.0-25.0, Mo 0.01-4.0, Ti .ltoreq.2.0, O .ltoreq.0.03, N .ltoreq.0.05, Al 0.001-0.100 wt.%, and balance Fe (Mn/S .ltoreq.3.0, Mn/Cr .ltoreq.0.1). The steel is heated at 900-1100.degree. for 0.5-3.0 h and cooled with water, so that sulfides in the steel may contain .gtoreq.5.0 wt.% Cr. Optionally the steel contains Pb, Se, Te, Bi, Ca, Mg, B, rare earth metal, W, V, Nb, and/or Ta. The steel has excellent machinability, corrosion resistance, and outgassing resistance.
IT 915078-66-9 915078-67-0 915078-69-2 915078-73-8 915078-75-0 915078-76-1 915078-78-3 915078-81-8 915078-83-0 915078-85-2 915078-86-3 915078-87-4 915078-88-5
(ferritic free-cutting stainless steel with high resistance to corrosion and outgassing for electronic devices)
RN 915078-66-9 HCAPLUS
CN Iron alloy, base, Fe 82,Cr 17,Ni 0.3,Mn 0.2,Si 0.2,Cu 0.1,S 0.1 (9CI) (CA INDEX NAME)

Component Component Component

	Percent	Registry Number
Fe	82	7439-89-6
Cr	17	7440-47-3
Ni	0.3	7440-02-0
Mn	0.2	7439-96-5
Si	0.2	7440-21-3
Cu	0.1	7440-50-8
S	0.1	7704-34-9

RN 915078-67-0 HCAPLUS
CN Iron alloy, base, Fe 83,Cr 16,Si 0.3,Cu 0.2,Mn 0.2,Mo 0.2,Pb 0.2,S 0.2,Ni 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Fe	83	7439-89-6
Cr	16	7440-47-3
Si	0.3	7440-21-3
Cu	0.2	7440-50-8
Mn	0.2	7439-96-5
Mo	0.2	7439-98-7
Pb	0.2	7439-92-1
S	0.2	7704-34-9
Ni	0.1	7440-02-0

RN 915078-69-2 HCAPLUS
CN Iron alloy, base, Fe 79,Cr 19,Cu 0.5,Ti 0.4,Mn 0.3,Mo 0.3,Ni 0.2,Si 0.2,S 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Fe	79	7439-89-6
Cr	19	7440-47-3
Cu	0.5	7440-50-8
Ti	0.4	7440-32-6
Mn	0.3	7439-96-5
Mo	0.3	7439-98-7
Ni	0.2	7440-02-0
Si	0.2	7440-21-3
S	0.1	7704-34-9

RN 915078-73-8 HCAPLUS
CN Iron alloy, base, Fe 81,Cr 18,Ni 0.3,Ti 0.3,Mn 0.2,Si 0.2,Al 0.1,Cu 0.1,S 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Fe	81	7439-89-6
Cr	18	7440-47-3
Ni	0.3	7440-02-0
Ti	0.3	7440-32-6
Mn	0.2	7439-96-5

Si	0.2	7440-21-3
Al	0.1	7429-90-5
Cu	0.1	7440-50-8
S	0.1	7704-34-9

RN 915078-75-0 HCAPLUS
CN Iron alloy, base, Fe 78,Cr 18,Mn 1.4,Ni 0.9,Si 0.6,S 0.5,Ti 0.5,Cu 0.2,Mo 0.2,P 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Fe	78	7439-89-6
Cr	18	7440-47-3
Mn	1.4	7439-96-5
Ni	0.9	7440-02-0
Si	0.6	7440-21-3
S	0.5	7704-34-9
Ti	0.5	7440-32-6
Cu	0.2	7440-50-8
Mo	0.2	7439-98-7
P	0.1	7723-14-0

RN 915078-76-1 HCAPLUS
CN Iron alloy, base, Fe 79,Cr 16,Cu 1.3,Ti 1.2,Mo 0.9,S 0.3,Si 0.3,Ni 0.2,C 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Fe	79	7439-89-6
Cr	16	7440-47-3
Cu	1.3	7440-50-8
Ti	1.2	7440-32-6
Mo	0.9	7439-98-7
S	0.3	7704-34-9
Si	0.3	7440-21-3
Ni	0.2	7440-02-0
C	0.1	7440-44-0

RN 915078-78-3 HCAPLUS
CN Iron alloy, base, Fe 76,Cr 20,Ti 1.1,Cu 0.7,Mo 0.6,Mn 0.5,Ni 0.3,Si 0.3,S 0.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Fe	76	7439-89-6
Cr	20	7440-47-3
Ti	1.1	7440-32-6
Cu	0.7	7440-50-8
Mo	0.6	7439-98-7
Mn	0.5	7439-96-5
Ni	0.3	7440-02-0
Si	0.3	7440-21-3
S	0.2	7704-34-9

RN 915078-81-8 HCAPLUS
CN Iron alloy, base, Fe 74,Cr 22,Ni 1.2,Si 1.2,Ti 0.7,Mn 0.5,Cu 0.2,Nb 0.2,S 0.2,Bi 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Fe	74	7439-89-6
Cr	22	7440-47-3
Ni	1.2	7440-02-0
Si	1.2	7440-21-3
Ti	0.7	7440-32-6
Mn	0.5	7439-96-5
Cu	0.2	7440-50-8
Nb	0.2	7440-03-1
S	0.2	7704-34-9
Bi	0.1	7440-69-9

RN 915078-83-0 HCAPLUS
CN Iron alloy, base, Fe 70,Cr 23,Si 1.8,W 1.6,Mn 0.9,Ni 0.7,Ti 0.7,Mo 0.4,Cu 0.3,S 0.3 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Fe	70	7439-89-6
Cr	23	7440-47-3
Si	1.8	7440-21-3
W	1.6	7440-33-7
Mn	0.9	7439-96-5
Ni	0.7	7440-02-0
Ti	0.7	7440-32-6
Mo	0.4	7439-98-7
Cu	0.3	7440-50-8
S	0.3	7704-34-9

RN 915078-85-2 HCAPLUS
CN Iron alloy, base, Fe 75,Cr 21,Ti 0.9,Cu 0.7,Mo 0.7,Si 0.6,Ni 0.4,S 0.4,C 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Fe	75	7439-89-6
Cr	21	7440-47-3
Ti	0.9	7440-32-6
Cu	0.7	7440-50-8
Mo	0.7	7439-98-7
Si	0.6	7440-21-3
Ni	0.4	7440-02-0
S	0.4	7704-34-9
C	0.1	7440-44-0

RN 915078-86-3 HCAPLUS
CN Iron alloy, base, Fe 69,Cr 24,Cu 1.9,Ni 1.9,Ti 1,Mo 0.9,S 0.5,Si

0.3,Mn 0.2,Ta 0.2,C 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Fe	69	7439-89-6
Cr	24	7440-47-3
Cu	1.9	7440-50-8
Ni	1.9	7440-02-0
Ti	1	7440-32-6
Mo	0.9	7439-98-7
S	0.5	7704-34-9
Si	0.3	7440-21-3
Mn	0.2	7439-96-5
Ta	0.2	7440-25-7
C	0.1	7440-44-0

RN 915078-87-4 HCAPLUS
CN Iron alloy, base, Fe 80,Cr 17,Ti 0.7,Ni 0.5,S 0.5,Mn 0.3,Si 0.3,Cu 0.2,Mo 0.2,Pb 0.2,C 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Fe	80	7439-89-6
Cr	17	7440-47-3
Ti	0.7	7440-32-6
Ni	0.5	7440-02-0
S	0.5	7704-34-9
Mn	0.3	7439-96-5
Si	0.3	7440-21-3
Cu	0.2	7440-50-8
Mo	0.2	7439-98-7
Pb	0.2	7439-92-1
C	0.1	7440-44-0

RN 915078-88-5 HCAPLUS
CN Iron alloy, base, Fe 76,Cr 18,Ni 1.7,Si 1.5,Ti 0.7,Mo 0.4,Cu 0.3,Bi 0.2,S 0.2,Al 0.1,Mn 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Fe	76	7439-89-6
Cr	18	7440-47-3
Ni	1.7	7440-02-0
Si	1.5	7440-21-3
Ti	0.7	7440-32-6
Mo	0.4	7439-98-7
Cu	0.3	7440-50-8
Bi	0.2	7440-69-9
S	0.2	7704-34-9
Al	0.1	7429-90-5
Mn	0.1	7439-96-5

IPCI C22C0038-00 [I,A]; C21D0008-06 [I,A]; C22C0038-60 [I,A]

IPCR C22C0038-00 [I,A]; C21D0008-06 [I,A]; C22C0038-60 [I,A]
CC 55-5 (Ferrous Metals and Alloys)
Section cross-reference(s): 76
IT Annealing
Electric apparatus
(ferritic free-cutting stainless steel with high resistance to corrosion and outgassing for electronic devices)
IT 915078-66-9 915078-67-0 915078-69-2
915078-71-6 915078-73-8 915078-75-0
915078-76-1 915078-78-3 915078-81-8
915078-83-0 915078-85-2 915078-86-3
915078-87-4 915078-88-5 915078-89-6
(ferritic free-cutting stainless steel with high resistance to corrosion and outgassing for electronic devices)

L53 ANSWER 7 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2006:1091146 HCAPLUS Full-text
DOCUMENT NUMBER: 145:442361
TITLE: Composition and manufacture of Cu-Ni-Si based copper alloy for electronic parts
INVENTOR(S): Era, Naohiko; Fukamachi, Kazuhiko; Kuwagaki, Hiroshi
PATENT ASSIGNEE(S): Nikko Materials Co., Ltd., Japan; JX Nippon Mining & Metals Corp.
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006283107	A	20061019	JP 2005-104135 <--	20050331
JP 4813814	B2	20111109		
PRIORITY APPLN. INFO.:			JP 2005-104135 <--	20050331

ED Entered STN: 19 Oct 2006
AB The alloy comprises Ni 1.5-4, Si 0.3-1.2, Mn and/or Mg 0.03-0.5%, and Cu bal. with 4 .ltoreq.(Ni/Si) .ltoreq.5, where the inclusions with size .ltoreq.5 .mu.m are dispersed in the alloy and contain .gtoreq.10% Ni, Si, and O; and the no. ratio of the inclusions with size .gtoreq.1 .mu.mm (Po) to the inclusions with size .gtoreq.0.1 .mu.m (P) is (Po/P) .ltoreq.0.1. The alloy may further contain 0.001-2% P, As, Sb, Be, B, Sn, Ti, Zr, Al, Fe, Zn, and/or Ag. The alloy is manufd. by heating the alloy cast to 900-1000.degree., heat treating, rolling, solid soln. heat treating at 750-1000.degree., and aging at 350-550.degree..
IT 204124-67-4 807367-20-0 807367-24-4
807367-34-6 807367-74-4 807367-87-9
807367-90-4 827026-38-0 896731-81-0
912847-52-0 912847-53-1 912847-54-2
912847-55-3 912847-56-4 912847-57-5
912847-58-6 912847-59-7 912847-60-0
912847-61-1 912847-62-2
(compn. and manuf. of Cu-Ni-Si based copper alloy for electronic parts)

RN 204124-67-4 HCAPLUS
CN Copper alloy, base, Cu 97,Ni 2.5,Si 0.6,Mg 0.2 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	2.5	7440-02-0
Si	0.6	7440-21-3
Mg	0.2	7439-95-4

RN 807367-20-0 HCAPLUS
CN Copper alloy, base, Cu 97,Ni 2.5,Si 0.5,Mg 0.2 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	2.5	7440-02-0
Si	0.5	7440-21-3
Mg	0.2	7439-95-4

RN 807367-24-4 HCAPLUS
CN Copper alloy, base, Cu 96,Ni 2.5,Si 0.5,Zn 0.4,Mg 0.2,Sn 0.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	96	7440-50-8
Ni	2.5	7440-02-0
Si	0.5	7440-21-3
Zn	0.4	7440-66-6
Mg	0.2	7439-95-4
Sn	0.2	7440-31-5

RN 807367-34-6 HCAPLUS
CN Copper alloy, base, Cu 97,Ni 2.5,Si 0.5,Mg 0.2,Mn 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	2.5	7440-02-0
Si	0.5	7440-21-3
Mg	0.2	7439-95-4
Mn	0.1	7439-96-5

RN 807367-74-4 HCAPLUS
CN Copper alloy, base, Cu 94,Ni 4.5,Si 1,Mg 0.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	94	7440-50-8

Ni	4.5	7440-02-0
Si	1	7440-21-3
Mg	0.2	7439-95-4

RN 807367-87-9 HCAPLUS
CN Copper alloy, base, Cu 94,Ni 4.5,Si 1,Mg 0.2,Mn 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	94	7440-50-8
Ni	4.5	7440-02-0
Si	1	7440-21-3
Mg	0.2	7439-95-4
Mn	0.1	7439-96-5

RN 807367-90-4 HCAPLUS
CN Copper alloy, base, Cu 94,Ni 4.5,Si 1,Mn 0.3,Mg 0.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	94	7440-50-8
Ni	4.5	7440-02-0
Si	1	7440-21-3
Mn	0.3	7439-96-5
Mg	0.2	7439-95-4

RN 827026-38-0 HCAPLUS
CN Copper alloy, base, Cu 95,Ni 3.8,Si 0.8,Mg 0.2,Mn 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	3.8	7440-02-0
Si	0.8	7440-21-3
Mg	0.2	7439-95-4
Mn	0.1	7439-96-5

RN 896731-81-0 HCAPLUS
CN Copper alloy, base, Cu 95,Ni 3.8,Si 0.8,Mg 0.2,Mn 0.2 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	3.8	7440-02-0
Si	0.8	7440-21-3
Mg	0.2	7439-95-4
Mn	0.2	7439-96-5

RN 912847-52-0 HCAPLUS

CN Copper alloy, base, Cu 97,Ni 2.5,Si 0.6,Mg 0.2,Mn 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	2.5	7440-02-0
Si	0.6	7440-21-3
Mg	0.2	7439-95-4
Mn	0.1	7439-96-5

RN 912847-53-1 HCAPLUS
CN Copper alloy, base, Cu 70-98,Ni 1.5-4,Ag 0-2,Al 0-2,As 0-2,B 0-2,Be 0-2,Fe 0-2,P 0-2,Sb 0-2,Sn 0-2,Ti 0-2,Zn 0-2,Zr 0-2,Si 0.3-1.2,Mg 0-0.5,Mn 0-0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	70 - 98	7440-50-8
Ni	1.5 - 4	7440-02-0
Ag	0 - 2	7440-22-4
Al	0 - 2	7429-90-5
As	0 - 2	7440-38-2
B	0 - 2	7440-42-8
Be	0 - 2	7440-41-7
Fe	0 - 2	7439-89-6
P	0 - 2	7723-14-0
Sb	0 - 2	7440-36-0
Sn	0 - 2	7440-31-5
Ti	0 - 2	7440-32-6
Zn	0 - 2	7440-66-6
Zr	0 - 2	7440-67-7
Si	0.3 - 1.2	7440-21-3
Mg	0 - 0.5	7439-95-4
Mn	0 - 0.5	7439-96-5

RN 912847-54-2 HCAPLUS
CN Copper alloy, base, Cu 96,Ni 2.5,Si 0.6,Mn 0.3,Mg 0.2,Cr 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	96	7440-50-8
Ni	2.5	7440-02-0
Si	0.6	7440-21-3
Mn	0.3	7439-96-5
Mg	0.2	7439-95-4
Cr	0.1	7440-47-3

RN 912847-55-3 HCAPLUS
CN Copper alloy, base, Cu 95,Ni 3.8,Si 0.9,Mg 0.2 (CA INDEX NAME)

Component Component Component

	Percent	Registry Number
Cu	95	7440-50-8
Ni	3.8	7440-02-0
Si	0.9	7440-21-3
Mg	0.2	7439-95-4

RN 912847-56-4 HCAPLUS
CN Copper alloy, base, Cu 95,Ni 3.8,Si 0.8,Mg 0.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	3.8	7440-02-0
Si	0.8	7440-21-3
Mg	0.2	7439-95-4

RN 912847-57-5 HCAPLUS
CN Copper alloy, base, Cu 95,Ni 3.8,Si 0.8,Mg 0.2,Zn 0.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	3.8	7440-02-0
Si	0.8	7440-21-3
Mg	0.2	7439-95-4
Zn	0.2	7440-66-6

RN 912847-58-6 HCAPLUS
CN Copper alloy, base, Cu 95,Ni 3.8,Si 0.8,Mn 0.5,Mg 0.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	3.8	7440-02-0
Si	0.8	7440-21-3
Mn	0.5	7439-96-5
Mg	0.2	7439-95-4

RN 912847-59-7 HCAPLUS
CN Copper alloy, base, Cu 94,Ni 4.5,Si 1,Mg 0.2,Zr 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	94	7440-50-8
Ni	4.5	7440-02-0
Si	1	7440-21-3
Mg	0.2	7439-95-4
Zr	0.1	7440-67-7

RN 912847-60-0 HCAPLUS
CN Copper alloy, base, Cu 94,Ni 4.5,Si 1,Mg 0.2,Cr 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	94	7440-50-8
Ni	4.5	7440-02-0
Si	1	7440-21-3
Mg	0.2	7439-95-4
Cr	0.1	7440-47-3

RN 912847-61-1 HCAPLUS
CN Copper alloy, base, Cu 94,Ni 4.5,Si 1,Mg 0.2,Co 0.1,Mn 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	94	7440-50-8
Ni	4.5	7440-02-0
Si	1	7440-21-3
Mg	0.2	7439-95-4
Co	0.1	7440-48-4
Mn	0.1	7439-96-5

RN 912847-62-2 HCAPLUS
CN Copper alloy, base, Cu 94,Ni 4.5,Si 1,Mn 0.3,Al 0.2,Mg 0.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	94	7440-50-8
Ni	4.5	7440-02-0
Si	1	7440-21-3
Mn	0.3	7439-96-5
Al	0.2	7429-90-5
Mg	0.2	7439-95-4

IPCI C22C0009-06 [I,A]; C22F0001-08 [I,A]; C22F0001-00 [N,A]; C22C0009-06 [I,A]; C22F0001-08 [I,A]; C22F0001-00 [N,A]
IPCR C22C0009-06 [I,A]; C22F0001-00 [N,A]; C22F0001-08 [I,A]
CC 56-3 (Nonferrous Metals and Alloys)
IT Electric apparatus
(compn. and manuf. of Cu-Ni-Si based copper alloy for electronic parts)
IT Heat treatment
Rolling (metals)
(in manuf. of Cu-Ni-Si based copper alloy for electronic parts)
IT 204124-67-4 807367-20-0 807367-24-4
807367-34-6 807367-74-4 807367-87-9
807367-90-4 827026-38-0 896731-81-0
912847-52-0 912847-53-1 912847-54-2

912847-55-3 912847-56-4 912847-57-5
912847-58-6 912847-59-7 912847-60-0
912847-61-1 912847-62-2
(compn. and manuf. of Cu-Ni-Si based copper alloy for electronic parts)
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L53 ANSWER 8 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2006:1091123 HCAPLUS Full-text
DOCUMENT NUMBER: 145:402149
TITLE: High strength nickel-silicon-copper alloy sheets with high bending workability and their manufacture
INVENTOR(S): Arai, Hiroshi; Yanagawa, Masahiro
PATENT ASSIGNEE(S): Kobe Steel, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 18pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006283059	A	20061019	JP 2005-101226 <--	20050331
JP 4566048	B2	20101020		
PRIORITY APPLN. INFO.:			JP 2005-101226 <--	20050331

ED Entered STN: 19 Oct 2006
AB The disclosed Cu alloy sheets contain Ni .gtoreq.2.5 and <6.0, Si .gtoreq.0.5 and <1.5 (Ni/Si 4-5), and Sn .gtoreq.0.01 and <4 wt.%, and has toughness .gtoreq.700 N/mm2, cond. .gtoreq.35% IACS, av. crystal grain size .ltoreq.10 .mu.m, and texture with ratio of cube {001}<100> components .gtoreq.50% when measured by SEM-EBSP. The Cu alloy sheets may also contain Zn .gtoreq.0.01 and <3, Mg .gtoreq.0.001 and <1, Mn .gtoreq.0.01 and <0.1, Ag .gtoreq.0.001 and <1, Cr .gtoreq.0.001 and <1, Zr .gtoreq.0.001 and <0.5, Co .gtoreq.0.01 and <0.5, and P .gtoreq.0.01 and <0.1 wt.%. The Cu alloy sheets are manufd. by hot-rolling (if necessary), quickly cooling, cold-rolling, continuous annealing to give a solid soln. recrystn. structure, cold rolling at process rate .ltoreq.20%, aging at 400-600.degree. for 1-8 h, final cold rolling at process rate 1-20%, and annealing at 400-550.degree. for .ltoreq.30 s. The Cu alloy sheets are useful for high-class spring materials for elec. and electronic parts.
IT 911667-71-5
(manuf. of Ni-Si-Cu alloy sheets with high toughness, cond., and bending workability useful for springs for elec. parts)
RN 911667-71-5 HCAPLUS
CN Copper alloy, base, Cu 81-97,Ni 2.5-6,Sn 0-4,Zn 0-3,Si 0.5-1.5,Ag 0-1,Cr 0-1,Mg 0-1,Co 0-0.5,Zr 0-0.5,Mn 0-0.1,P 0-0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	81 - 97	7440-50-8

Ni	2.5	-	6	7440-02-0
Sn	0	-	4	7440-31-5
Zn	0	-	3	7440-66-6
Si	0.5	-	1.5	7440-21-3
Ag	0	-	1	7440-22-4
Cr	0	-	1	7440-47-3
Mg	0	-	1	7439-95-4
Co	0	-	0.5	7440-48-4
Zr	0	-	0.5	7440-67-7
Mn	0	-	0.1	7439-96-5
P	0	-	0.1	7723-14-0

IPCI C22C0009-06 [I,A]; C22C0009-02 [I,A]; C22F0001-08 [I,A]; C22F0001-00 [N,A]; H01B0001-02 [N,A]; C22C0009-06 [I,A]; C22C0009-02 [I,A]; C22C0009-04 [I,A]; C22F0001-08 [I,A]; H01B0001-02 [I,A]; C22F0001-00 [N,A]
IPCR C22C0009-06 [I,A]; C22C0009-02 [I,A]; C22F0001-00 [N,A]; C22F0001-08 [I,A]; H01B0001-02 [N,A]; C22C0009-04 [I,A]
CC 56-11 (Nonferrous Metals and Alloys)
Section cross-reference(s): 76
IT Annealing
Cold rolling
Electric conductors
Springs (mechanical)
(manuf. of Ni-Si-Cu alloy sheets with high toughness, cond., and bending workability useful for springs for elec. parts)
IT 377734-94-6 911667-47-5 911667-55-5 911667-59-9 911667-62-4 911667-71-5
(manuf. of Ni-Si-Cu alloy sheets with high toughness, cond., and bending workability useful for springs for elec. parts)
OS.CITING REF COUNT: 11 THERE ARE 11 CAPLUS RECORDS THAT CITE THIS RECORD (11 CITINGS)

L53 ANSWER 9 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2006:844999 HCAPLUS Full-text
DOCUMENT NUMBER: 145:253477
TITLE: Copper alloy sheet for electric and electronic devices with small anisotropy and its manufacture
INVENTOR(S): Fugono, Akira; Arakawa, Katsuhito
PATENT ASSIGNEE(S): Kobe Steel, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006219733	A	20060824	JP 2005-35327 <--	20050214
JP 4566020	B2	20101020		
PRIORITY APPLN. INFO.:			JP 2005-35327 <--	20050214

ED Entered STN: 24 Aug 2006

AB The Cu alloy comprises 1.5-4.5 wt.% Ni and 0.3-1 wt.% Si, and balance Cu. The Cu alloy sheet is manufd. by hot rolling, cold rolling, soln. annealing to give elec. cond. Y (X< Y .ltoreq.1.5X, X: elec. cond. at solid soln. limit) and yield strength .gtoreq.150 MPa in both rolling direction and vertical direction, finish cold rolling at rolling redn. .ltoreq.50%, and aging annealing. Optionally the Cu alloy contains Sn .ltoreq.1.5, Zn .ltoreq.1.5, Mg .ltoreq.0.5, Mn .ltoreq.0.5, and/or Cr .ltoreq.0.5 wt.%. The soln. annealing process may consist of heating at .gtoreq.10.degree./s to 700-1000.degree., holding for <3 s, and cooling at .gtoreq.30.degree./s. The aging annealing process may be holding the temp. of 350-600.degree. for 1-20 h. The Cu alloy sheet has high strength and elec. cond. and small anisotropy of yield strength and bending workability.

IT 108000-85-7 245432-53-5 438572-90-8
906065-73-4
(manuf. of Cu alloy sheet for elec. and electronic devices with small anisotropy)

RN 108000-85-7 HCAPLUS

CN Copper alloy, base, Cu 96,Ni 3.2,Si 0.7,Zn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	96	7440-50-8
Ni	3.2	7440-02-0
Si	0.7	7440-21-3
Zn	0.3	7440-66-6

RN 245432-53-5 HCAPLUS

CN Copper alloy, base, Cu 97,Ni 1.8,Zn 1.1,Si 0.4,Sn 0.1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	1.8	7440-02-0
Zn	1.1	7440-66-6
Si	0.4	7440-21-3
Sn	0.1	7440-31-5

RN 438572-90-8 HCAPLUS

CN Copper alloy, base, Cu 95,Ni 3.2,Zn 1,Si 0.7,Sn 0.5 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	3.2	7440-02-0
Zn	1	7440-66-6
Si	0.7	7440-21-3
Sn	0.5	7440-31-5

RN 906065-73-4 HCAPLUS

CN Copper alloy, base, Cu 90-94,Ni 1.5-4.5,Sn 1.5,Zn 1.5,Si 0.3-1,Cr 0.5,Mg 0.5,Mn 0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number

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=========+=============+===============
    Cu      90    -  94         7440-50-8
    Ni       1.5 -   4.5       7440-02-0
    Sn           1.5           7440-31-5
    Zn           1.5           7440-66-6
    Si       0.3 -   1         7440-21-3
    Cr           0.5           7440-47-3
    Mg           0.5           7439-95-4
    Mn           0.5           7439-96-5

IPCI C22F0001-08 [I,A]; H01B0001-02 [I,A]; C22C0009-06 [N,A]; C22F0001-00
     [N,A]; C22F0001-08 [I,A]; C22C0009-06 [I,A]; H01B0001-02 [I,A];
     C22F0001-00 [N,A]
IPCR C22F0001-08 [I,A]; C22C0009-06 [N,A]; C22F0001-00 [N,A]; H01B0001-02
     [I,A]
CC   56-5 (Nonferrous Metals and Alloys)
     Section cross-reference(s): 76
ST   copper alloy sheet elec device manuf
IT   Aging, materials
       Cold rolling
       Electric apparatus
         (manuf. of Cu alloy sheet for elec. and electronic
         devices with small anisotropy)
IT   Annealing
         (soln. annealing; manuf. of Cu alloy sheet for elec. and
         electronic devices with small anisotropy)
IT   108000-85-7   115569-53-4   142567-44-0
     245432-53-5   438572-90-8   906065-72-3
     906065-73-4
         (manuf. of Cu alloy sheet for elec. and electronic
         devices with small anisotropy)
OS.CITING REF COUNT:     4      THERE ARE 4 CAPLUS RECORDS THAT CITE THIS
                                RECORD (4 CITINGS)

L53  ANSWER 10 OF 18  HCAPLUS  COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER:         2006:30431  HCAPLUS  Full-text
DOCUMENT NUMBER:          144:111818
TITLE:                    Composition and manufacture of high strength cold
                          rolled steel plate for automobiles and electric
                          apparatus
INVENTOR(S):              Omosako, Koji; Matsumoto, Takashi
PATENT ASSIGNEE(S):       Nisshin Steel Co., Ltd., Japan
SOURCE:                   Jpn. Kokai Tokkyo Koho, 15 pp.
                          CODEN: JKXXAF
DOCUMENT TYPE:            Patent
LANGUAGE:                 Japanese
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.          KIND   DATE        APPLICATION NO.          DATE
     --------------      ----   --------    --------------------     --------
     JP 2006009057        A     20060112    JP 2004-184519           20040623
                                                                     <--
PRIORITY APPLN. INFO.:                      JP 2004-184519           20040623
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ED   Entered STN:  12 Jan 2006
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AB The steel comprises C 0.08-0.18, Si 1-1.8, Mn 2-2.6, P .ltoreq.0.03, S .ltoreq.0.005, Al 0.01-0.1%, Fe bal. with the carbon equiv. Ceq = 0.45-0.7%, where Ceq(%) = C + Si/24 + Mn/6 + Cr/5 + B .times. 5 + V/14 + Mo/4 + Ni/40. The steel may further contain Ni .ltoreq.0.1, Mo .ltoreq.0.3, Cr .ltoreq.0.5, Cu .ltoreq.0.1, V .ltoreq.0.08, B .ltoreq.0.005, Ca .ltoreq.0.005, Ti .ltoreq.0.1, and/or Nb .ltoreq.0.05%. The steel plate is manufd. by hot rolling at .gtoreq.1000.degree., cooling from Ar3 + 50.degree. to .ltoreq.700.degree. to refine the ferrite + pearlite microstructure, pickling, cold rolling, heating at .gtoreq.830.degree. for .gtoreq.60 s, cooling to 600-720.degree. at .ltoreq.10.degree./s to .gtoreq.50% ferrite, cooling at .gtoreq.7.degree./s to T(.degree.C), heating at .gtoreq.(T + 30.degree.) for .gtoreq.3 min, and cooling to room temp., where T(.degree.C) = 248 .times. Ceq + 538.

IT 872462-16-3
(compn. and manuf. of high strength cold rolled steel plate for automobiles and elec. app.)

RN 872462-16-3 HCAPLUS

CN Iron alloy, base, Fe 94-97,Mn 2-2.6,Si 1-1.8,Cr 0-0.5,Mo 0-0.3,C 0.1-0.2,Al 0-0.1,Cu 0-0.1,Ni 0-0.1,Ti 0-0.1,V 0-0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Fe	94 - 97	7439-89-6
Mn	2 - 2.6	7439-96-5
Si	1 - 1.8	7440-21-3
Cr	0 - 0.5	7440-47-3
Mo	0 - 0.3	7439-98-7
C	0.1 - 0.2	7440-44-0
Al	0 - 0.1	7429-90-5
Cu	0 - 0.1	7440-50-8
Ni	0 - 0.1	7440-02-0
Ti	0 - 0.1	7440-32-6
V	0 - 0.1	7440-62-2

IPCI C21D0009-46 [I,A]; B21B0001-26 [I,A]; B21B0003-00 [I,A]; B21B0045-08 [I,A]; C22C0038-00 [I,A]; C22C0038-06 [I,A]; C22C0038-58 [I,A]

IPCR C21D0009-46 [I,A]; B21B0001-26 [I,A]; B21B0003-00 [I,A]; B21B0045-08 [I,A]; C22C0038-00 [I,A]; C22C0038-06 [I,A]; C22C0038-58 [I,A]

CC 55-3 (Ferrous Metals and Alloys)

IT Automobiles
Electric apparatus
(compn. and manuf. of high strength cold rolled steel plate for automobiles and elec. app.)

IT Rolling (metals)
(hot; in manuf. of high strength cold rolled steel plate for automobiles and elec. app.)

IT Cold rolling
Heat treatment
(in manuf. of high strength cold rolled steel plate for automobiles and elec. app.)

IT 137412-10-3 144920-07-0, processes 634602-45-2, processes 872462-13-0 872462-14-1 872462-15-2 872462-16-3
(compn. and manuf. of high strength cold rolled steel plate for automobiles and elec. app.)

L53 ANSWER 11 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2005:1195480 HCAPLUS Full-text
DOCUMENT NUMBER: 143:471018
TITLE: High-frequency signal transmission materials and electric terminals
INVENTOR(S): Era, Naohiko; Fukamachi, Kazuhiko
PATENT ASSIGNEE(S): Nikko Metal Manufacturing Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005317463	A	20051110	JP 2004-136648 <--	20040430
PRIORITY APPLN. INFO.:			JP 2004-136648 <--	20040430

ED Entered STN: 10 Nov 2005
AB The title signal transmission material comprises (1) an alloy material having a correlation YS.gtoreq.-1.25EC+700 wherein YS and EC denote 0.2% yield strength and elec. cond., resp. and (2) a Cu plating layer (thickness 1-5.0 .mu.m) plated on the alloy materials. The elec. terminals for signal transmission may be manufd. by plating the alloy material with Cu, cold pressing, annealing, and dieing-out pressing. The arrangement provides the transmission materials and the elec. terminals with high tensile strength and high spring tension.
IT 346441-68-7P, Copper 97, magnesium 0.1, nickel 2.2, silicon 0.5 869086-20-4P, Chromium 0.1, cobalt 0.5, copper 96, magnesium 0.1, nickel 2.2, silicon 0.8 869086-21-5P, Copper 95, magnesium 0.1, nickel 3.8, silicon 0.9 869086-22-6P, Copper 95, magnesium 0.1, manganese 0.1, nickel 3.8, silicon 0.9 869086-23-7P, Copper 95, iron 0.1, magnesium 0.1, nickel 3.8, silicon 0.9 869086-24-8P, Copper 95, magnesium 0.1, nickel 3.8, silicon 0.9, tin 0.5
(copper plated alloy substrate; high-frequency signal transmission materials and elec. terminals)
RN 346441-68-7 HCAPLUS
CN Copper alloy, base, Cu 97,Ni 2.2,Si 0.5,Mg 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	2.2	7440-02-0
Si	0.5	7440-21-3
Mg	0.1	7439-95-4

RN 869086-20-4 HCAPLUS
CN Copper alloy, base, Cu 96,Ni 2.2,Si 0.8,Co 0.5,Cr 0.1,Mg 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number

Cu	96	7440-50-8
Ni	2.2	7440-02-0
Si	0.8	7440-21-3
Co	0.5	7440-48-4
Cr	0.1	7440-47-3
Mg	0.1	7439-95-4

RN 869086-21-5 HCAPLUS
CN Copper alloy, base, Cu 95,Ni 3.8,Si 0.9,Mg 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	3.8	7440-02-0
Si	0.9	7440-21-3
Mg	0.1	7439-95-4

RN 869086-22-6 HCAPLUS
CN Copper alloy, base, Cu 95,Ni 3.8,Si 0.9,Mg 0.1,Mn 0.1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	3.8	7440-02-0
Si	0.9	7440-21-3
Mg	0.1	7439-95-4
Mn	0.1	7439-96-5

RN 869086-23-7 HCAPLUS
CN Copper alloy, base, Cu 95,Ni 3.8,Si 0.9,Fe 0.1,Mg 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	3.8	7440-02-0
Si	0.9	7440-21-3
Fe	0.1	7439-89-6
Mg	0.1	7439-95-4

RN 869086-24-8 HCAPLUS
CN Copper alloy, base, Cu 95,Ni 3.8,Si 0.9,Sn 0.5,Mg 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	3.8	7440-02-0
Si	0.9	7440-21-3
Sn	0.5	7440-31-5
Mg	0.1	7439-95-4

IPCI H01B0001-02 [ICM,7]; C22C0009-00 [ICS,7]; C22C0009-06 [ICS,7]; H01B0005-02 [ICS,7]
IPCR C22C0009-00 [I,A]; C22C0009-06 [I,A]; H01B0001-02 [I,A]; H01B0005-02 [I,A]
CC 76-2 (Electric Phenomena)
Section cross-reference(s): 55, 56
IT Electric apparatus
(high-frequency signal transmission components in; high-frequency signal transmission materials and elec. terminals)
IT Annealing
Surface roughness
(high-frequency signal transmission materials and elec. terminals)
IT 8049-16-9P 12244-31-4P, Austenite, properties 12716-98-2P 12793-09-8P 145604-63-3P, Chromium 0.1, copper 97, titanium 3 346441-68-7P, Copper 97, magnesium 0.1, nickel 2.2, silicon 0.5 869086-17-9P, Copper 97, iron 0.2, titanium 3 869086-18-0P, Cobalt 0.1, copper 97, titanium 3 869086-19-1P, Copper 97, titanium 3, vanadium 0.1 869086-20-4P, Chromium 0.1, cobalt 0.5, copper 96, magnesium 0.1, nickel 2.2, silicon 0.8 869086-21-5P, Copper 95, magnesium 0.1, nickel 3.8, silicon 0.9 869086-22-6P, Copper 95, magnesium 0.1, manganese 0.1, nickel 3.8, silicon 0.9 869086-23-7P, Copper 95, iron 0.1, magnesium 0.1, nickel 3.8, silicon 0.9 869086-24-8P, Copper 95, magnesium 0.1, nickel 3.8, silicon 0.9, tin 0.5
(copper plated alloy substrate; high-frequency signal transmission materials and elec. terminals)
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L53 ANSWER 12 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2005:302221 HCAPLUS Full-text
DOCUMENT NUMBER: 142:377489
TITLE: Manufacture of high strength high conductivity copper alloy plate for electric and electronic devices
INVENTOR(S): Yanagawa, Masahiro; Arai, Hiroshi
PATENT ASSIGNEE(S): Kobe Steel, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005089843	A	20050407	JP 2003-326452 <--	20030918
JP 4664584	B2	20110406		
PRIORITY APPLN. INFO.:			JP 2003-326452 <--	20030918

ED Entered STN: 08 Apr 2005
AB The alloy contains Si and 4-5% Ni with the wt. ratio of Ni/Si being 4-5; after aging-hardening Ni2Si ppts. with av. particle size 3-10 nm and av. space .ltoreq.25 nm are obsd. in the alloy microstructure; and the alloy has a tensile strength of .gtoreq.900 MPa and an elec. cond. of .gtoreq.20%IACS. The alloy may further

contain Sn 0.1-4, Zn 0.1-1, Ag 0.001-1, Mn 0.01-0.1, Zr 0.001-0.1, and/or Co 0.01-0.3. The process comprises rolling, heat treating, water cooling, cold rolling, and aging-hardening.

IT 849354-39-8 849354-41-2 849354-42-3
849354-44-5
(manuf. of high strength high cond. copper alloy plate for elec. and electronic devices)

RN 849354-39-8 HCAPLUS
CN Copper alloy, base, Cu 91,Ni 4,Sn 4,Si 0.9 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	91	7440-50-8
Ni	4	7440-02-0
Sn	4	7440-31-5
Si	0.9	7440-21-3

RN 849354-41-2 HCAPLUS
CN Copper alloy, base, Cu 95,Ni 4,Si 0.9,Zn 0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	4	7440-02-0
Si	0.9	7440-21-3
Zn	0.5	7440-66-6

RN 849354-42-3 HCAPLUS
CN Copper alloy, base, Cu 95,Ni 4,Si 0.9,Ag 0.3 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	4	7440-02-0
Si	0.9	7440-21-3
Ag	0.3	7440-22-4

RN 849354-44-5 HCAPLUS
CN Copper alloy, base, Cu 87-95,Ni 4-5,Sn 0-4,Si 0.8-1.2,Ag 0-1,Zn 0-1,Co 0-0.3,Mn 0-0.1,Zr 0-0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	87 - 95	7440-50-8
Ni	4 - 5	7440-02-0
Sn	0 - 4	7440-31-5
Si	0.8 - 1.2	7440-21-3
Ag	0 - 1	7440-22-4
Zn	0 - 1	7440-66-6
Co	0 - 0.3	7440-48-4
Mn	0 - 0.1	7439-96-5
Zr	0 - 0.1	7440-67-7

IPCI C22C0009-06 [I,A]; C22C0009-02 [I,A]; C22F0001-08 [I,A]; C22F0001-00 [N,A]
IPCR C22F0001-08 [I,A]; C22C0009-06 [I,A]; C22F0001-00 [I,A]
CC 56-3 (Nonferrous Metals and Alloys)
IT Heat treatment
Rolling (metals)
(in manuf. of high strength high cond. copper alloy plate for elec. and electronic devices)
IT Electric apparatus
Semiconductor devices
(manuf. of high strength high cond. copper alloy plate for elec. and electronic devices)
IT 71282-65-0 173926-91-5 849354-32-1 849354-34-3 849354-36-5 849354-38-7 849354-39-8 849354-41-2 849354-42-3 849354-43-4 849354-44-5
(manuf. of high strength high cond. copper alloy plate for elec. and electronic devices)

L53 ANSWER 13 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2004:351841 HCAPLUS Full-text
DOCUMENT NUMBER: 140:361183
TITLE: Manufacture of Cu-Ni-Si alloy for terminal, connector, relay, or switch of electric devices
INVENTOR(S): Ishikawa, Yasukiyo
PATENT ASSIGNEE(S): Nikko Metal Manufacturing Co., Ltd., Japan; Nippon Mining & Metals Co., Ltd.
SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004131829	A	20040430	JP 2002-299676 <--	20021011
JP 4386236	B2	20091216		
JP 2009280919	A	20091203	JP 2009-199738 <--	20090831
PRIORITY APPLN. INFO.:			JP 2002-299676 <--	A3 20021011

ED Entered STN: 30 Apr 2004
AB The alloy comprises Ni 1-4.5, Si 0.3-1.5%, and Cu bal. The alloy may further contain 0.05-0.3% Mg and 0.05-2% Zn, Sn, Fe, Ti, Zr, Cr, Al, P, Mn, Ag, and/or B. The alloy is manufd. by soln. heat treating, cold rolling, plating with a 0.5-10 .mu.m thick Cu layer, aging at .ltoreq.(2-10) Pa or in atm. (comprising .gtoreq.50 vol.% H and bal. of inert gas) with dew point .ltoreq.-40.degree. at 300-650.degree. for 10 s - 15 h, chem.-mech. polishing to remove Cu plating and surface oxide layer, and annealing at 400-650.degree. in atm. contg. .gtoreq.50 vol.% H and having dew point .ltoreq.-40.degree. for 5 s - 2 min. The 0.2% yield strength of the alloy is .gtoreq.500 MPa with the difference between the yield strength and the spring threshold being .ltoreq.100 MPa; and the oxide film on the alloy is .ltoreq.10 nm thick.
IT 204124-67-4 682813-47-4

(manuf. of Cu-Ni-Si alloy for terminal, connector, relay, or switch of elec. devices)
RN 204124-67-4 HCAPLUS
CN Copper alloy, base, Cu 97,Ni 2.5,Si 0.6,Mg 0.2 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	2.5	7440-02-0
Si	0.6	7440-21-3
Mg	0.2	7439-95-4

RN 682813-47-4 HCAPLUS
CN Copper alloy, base, Cu 72-99,Ni 1-4.5,Ag 0-2,Al 0-2,B 0-2,Cr 0-2,Fe 0-2,Mn 0-2,P 0-2,Sn 0-2,Ti 0-2,Zn 0-2,Zr 0-2,Si 0.3-1.5,Mg 0-0.3 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	72 - 99	7440-50-8
Ni	1 - 4.5	7440-02-0
Ag	0 - 2	7440-22-4
Al	0 - 2	7429-90-5
B	0 - 2	7440-42-8
Cr	0 - 2	7440-47-3
Fe	0 - 2	7439-89-6
Mn	0 - 2	7439-96-5
P	0 - 2	7723-14-0
Sn	0 - 2	7440-31-5
Ti	0 - 2	7440-32-6
Zn	0 - 2	7440-66-6
Zr	0 - 2	7440-67-7
Si	0.3 - 1.5	7440-21-3
Mg	0 - 0.3	7439-95-4

IPCI C22C0009-06 [I,A]; C22F0001-02 [I,A]; C22F0001-08 [I,A]; C22F0001-00 [N,A]
IPCR C22F0001-02 [I,A]; C22C0009-06 [I,A]; C22F0001-00 [I,A]; C22F0001-08 [I,A]
CC 56-3 (Nonferrous Metals and Alloys)
Section cross-reference(s): 76
ST copper nickel silicon alloy elec device; rolling plating heat treating polishing copper nickel silicon alloy
IT Polishing
(chem.-mech.; in manuf. of Cu-Ni-Si alloy for terminal, connector, relay, or switch of elec. devices)
IT Electric contacts
(connectors; manuf. of Cu-Ni-Si alloy for terminal, connector, relay, or switch of elec. devices)
IT Aging, materials
Annealing
Cold rolling
(in manuf. of Cu-Ni-Si alloy for terminal, connector, relay, or switch of elec. devices)

IT Electric apparatus
Electric switches
Relays
(manuf. of Cu-Ni-Si alloy for terminal, connector, relay, or switch of elec. devices)
IT Yield strength
(of Cu-Ni-Si alloy for terminal, connector, relay, or switch of elec. devices)
IT Coating process
(plating; in manuf. of Cu-Ni-Si alloy for terminal, connector, relay, or switch of elec. devices)
IT Wettability
(solder wettability; of Cu-Ni-Si alloy for terminal, connector, relay, or switch of elec. devices)
IT 204124-67-4 682813-47-4
(manuf. of Cu-Ni-Si alloy for terminal, connector, relay, or switch of elec. devices)
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L53 ANSWER 14 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2004:37156 HCAPLUS Full-text
DOCUMENT NUMBER: 140:115371
TITLE: Manufacture of superelastic Cu-Al-Mn alloy foil for strain sensor
INVENTOR(S): Suzuki, Hidekazu; Okamoto, Takayuki; Wakita, Masami; Ishida, Kiyohito; Kainuma, Ryosuke; Sudo, Yuji; Omori, Toshihiro
PATENT ASSIGNEE(S): Chuo Spring Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004010999	A	20040115	JP 2002-168637 <--	20020610
JP 3971961	B2	20070905		
PRIORITY APPLN. INFO.:			JP 2002-168637 <--	20020610

ED Entered STN: 16 Jan 2004
AB The elec. resistivity of the alloy is changing linearly with the change of its strain. The alloy comprises Al 3-10, Mn 5-20, Ni, Co, Fe, Ti, V, Cr, Si, Nb, Mo, W, Sn, Sb, Mg, P, Be, Zr, Zn, B, C, Ag, and/or misch metals 0.001-10%, and Cu bal. The alloy foil is 1-200 .mu.m thick and has grain size of 1-30 .times. 103 .mu.m. The alloy foil can be manufd. by melting and rapid solidifying by injecting onto the cooling roller.
IT 647011-98-1
(manuf. of superelastic Cu-Al-Mn alloy foil for strain sensor)
RN 647011-98-1 HCAPLUS
CN Copper alloy, base, Cu 0-92,Mn 5-20,Al 3-10,Ag 0-10,B 0-10,Be 0-10,C 0-10,Co 0-10,Cr 0-10,Fe 0-10,Mg 0-10,misch metal 0-10,Mo 0-10,Nb 0-10,Ni 0-10,P 0-10,Sb 0-10,Si 0-10,Sn 0-10,Ti 0-10,V 0-10,W 0-10,Zn

0-10,Zr 0-10 (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IPCI C22C0009-05 [I,A]; B22D0011-00 [I,A]; B22D0011-06 [I,A]; C22C0009-01 [I,A]; G01B0007-16 [I,A]
IPCR G01B0007-16 [I,A]; B22D0011-00 [I,A]; B22D0011-06 [I,A]; C22C0009-01 [I,A]; C22C0009-05 [I,A]
CC 56-3 (Nonferrous Metals and Alloys)
IT 174792-67-7 647011-98-1
(manuf. of superelastic Cu-Al-Mn alloy foil for strain sensor)

L53 ANSWER 15 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2002:98867 HCAPLUS Full-text
DOCUMENT NUMBER: 136:154668
TITLE: Working and heat treatment of copper alloys for electric contacts and the alloys
INVENTOR(S): Hirai, Takao
PATENT ASSIGNEE(S): Furukawa Electric Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002038246	A	20020206	JP 2000-220998 <--	20000721
JP 4460037	B2	20100512		
PRIORITY APPLN. INFO.:			JP 2000-220998 <--	20000721

ED Entered STN: 06 Feb 2002
AB The processes are carried out by (a) working followed by (b) heat treatment, under conditions for controlling the changes in the Vickers hardness to be .ltoreq.10 before and after each of the processes. The claimed Cu alloys contain Sn 0-10, Zn 0-40, Ni 0-10, Fe 0-3, Cr 0-1, Mn 0-1, P 0-0.5, Si 0-1, Mg 0-1, Zr 0-0.5, Ti 0-1, Co 0-1, Ag 0-1, Al 0-5, B 0-0.5, and/or rare earth metals 0-0.5 wt.%. The alloys are used in elec. terminals and switches including springs.
IT 395069-58-6
(working and heat treatment of elec. conductive copper alloys under controlling Vickers hardness, for use as elec. contacts)
RN 395069-58-6 HCAPLUS
CN Copper alloy, base, Cu 24-100,Zn 0-40,Ni 0-10,Sn 0-10,Al 0-5,Fe 0-3,Ag 0-1,Co 0-1,Cr 0-1,Mg 0-1,Mn 0-1,Si 0-1,Ti 0-1,B 0-0.5,P 0-0.5,Zr 0-0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	24 - 100	7440-50-8
Zn	0 - 40	7440-66-6
Ni	0 - 10	7440-02-0
Sn	0 - 10	7440-31-5
Al	0 - 5	7429-90-5
Fe	0 - 3	7439-89-6

Ag	0	-	1	7440-22-4
Co	0	-	1	7440-48-4
Cr	0	-	1	7440-47-3
Mg	0	-	1	7439-95-4
Mn	0	-	1	7439-96-5
Si	0	-	1	7440-21-3
Ti	0	-	1	7440-32-6
B	0	-	0.5	7440-42-8
P	0	-	0.5	7723-14-0
Zr	0	-	0.5	7440-67-7

IPCI C22F0001-08 [I,A]; C22C0009-02 [I,A]; C22C0009-04 [I,A]; C22C0009-06 [I,A]; C22F0001-00 [N,A]
IPCR C22F0001-08 [I,A]; C22C0009-02 [I,A]; C22C0009-04 [I,A]; C22C0009-06 [I,A]; C22F0001-00 [I,A]
CC 56-5 (Nonferrous Metals and Alloys)
Section cross-reference(s): 76
IT 11101-35-2 12793-09-8 76997-80-3, Corson alloy 395069-57-5, Copper 97, nickel 1, tin 2 395069-58-6
(working and heat treatment of elec. conductive copper alloys under controlling Vickers hardness, for use as elec. contacts)
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L53 ANSWER 16 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2001:482062 HCAPLUS Full-text
DOCUMENT NUMBER: 135:64906
TITLE: Copper alloy with superior strength, solderability and surface characteristics for electronic parts and its production
INVENTOR(S): Maki, Akio
PATENT ASSIGNEE(S): Nippon Mining + Metals Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001181759	A	20010703	JP 1999-358817 <--	19991217
JP 4154100	B2	20080924		
TW 224625	B	20041201	TW 2000-126692 <--	20001214
CN 1301026	A	20010627	CN 2000-135983 <--	20001215
CN 1287392	C	20061129		
PRIORITY APPLN. INFO.:			JP 1999-358817 A <--	19991217

ED Entered STN: 05 Jul 2001
AB The tile Cu alloy contains Ni 1.5-4.0, Si 0.30-1.2, Mg 0.05-0.20, and optionally .gtoreq.1 metals of Zn, Sn, Fe, Ti, Zr, Cr, Al, P, Mn, Ag, and Be 0.2-2.0% in total, but Ni/Si ratio (3-7):1, and Si/Mg ratio .ltoreq.0.8:1. The Cu alloy has an Auger-electron spectral intensity ratio of Mg peak/Si peak of .gtoreq.1.0 on its

surface after final heat treatment under reducing gas or inert gas atm. at 300-600.degree..
IT 346441-72-3
(copper alloy with superior strength, elec. cond., solderability and surface characteristics for electronic parts and its prodn.)
RN 346441-72-3 HCAPLUS
CN Copper alloy, base, Cu 73-98,Ni 1.5-4,Ag 0-2,Al 0-2,Be 0-2,Cr 0-2,Fe 0-2,Mn 0-2,P 0-2,Sn 0-2,Ti 0-2,Zn 0-2,Zr 0-2,Si 0.3-1.2,Mg 0-0.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	73 - 98	7440-50-8
Ni	1.5 - 4	7440-02-0
Ag	0 - 2	7440-22-4
Al	0 - 2	7429-90-5
Be	0 - 2	7440-41-7
Cr	0 - 2	7440-47-3
Fe	0 - 2	7439-89-6
Mn	0 - 2	7439-96-5
P	0 - 2	7723-14-0
Sn	0 - 2	7440-31-5
Ti	0 - 2	7440-32-6
Zn	0 - 2	7440-66-6
Zr	0 - 2	7440-67-7
Si	0.3 - 1.2	7440-21-3
Mg	0 - 0.2	7439-95-4

IPCI C22C0009-06 [I,A]; C22F0001-08 [I,A]; C22F0001-00 [N,A]
IPCR C22F0001-08 [I,A]; C22C0001-00 [I,A]; C22C0009-00 [I,A]; C22C0009-06 [I,A]; C22F0001-00 [I,A]; H01B0001-02 [I,A]
CC 56-3 (Nonferrous Metals and Alloys)
IT 346441-59-6 346441-60-9 346441-61-0 346441-62-1 346441-63-2 346441-64-3 346441-65-4 346441-66-5 346441-67-6 346441-68-7 346441-69-8 346441-70-1 346441-71-2 346441-72-3
(copper alloy with superior strength, elec. cond., solderability and surface characteristics for electronic parts and its prodn.)
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L53 ANSWER 17 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 2001:124420 HCAPLUS Full-text
DOCUMENT NUMBER: 134:151141
TITLE: Copper alloy for electronic parts and its production
INVENTOR(S): Maki, Akio
PATENT ASSIGNEE(S): Nikko Kinzoku K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

JP 2001049369	A	20010220	JP 1999-221987 <--	19990805
JP 3383615	B2	20030304		
PRIORITY APPLN. INFO.:			JP 1999-221987 <--	19990805

ED Entered STN: 20 Feb 2001

AB Cast slabs of Cu alloys contg. Ni 1.0-4.8, Si 0.2-1.4, and optionally .gtoreq.1 metals of Mg, Zn, Sn, Fe, Ti, Zr, Cr, Al, P, Mn, Ag, and Be 0.005-2.0% are homogenized at 800-900.degree., hot-rolled at .gtoreq.650.degree., and then aged at 300-650.degree. for 1-10 h to obtain a final strip product having cryst. inclusions (av. size .ltoreq.10 .mu.m, preferably 5-10 .mu.m) at .ltoreq.50 grains/mm2 in its cross-sectional surface along rolling direction. The Cu alloy strips have high tensile strength, elec. cond. and drawability in the prodn. of electronic parts.

IT 323202-28-4
(rolling and ageing treatment in prodn. of high-strength copper alloy strips for electronic parts)

RN 323202-28-4 HCAPLUS

CN Copper alloy, base, Cu 72-99,Ni 1-4.8,Ag 0-2,Al 0-2,Be 0-2,Cr 0-2,Mg 0-2,Mn 0-2,P 0-2,Sn 0-2,Ti 0-2,Zn 0-2,Zr 0-2,Si 0.2-1.4 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	72 - 99	7440-50-8
Ni	1 - 4.8	7440-02-0
Ag	0 - 2	7440-22-4
Al	0 - 2	7429-90-5
Be	0 - 2	7440-41-7
Cr	0 - 2	7440-47-3
Mg	0 - 2	7439-95-4
Mn	0 - 2	7439-96-5
P	0 - 2	7723-14-0
Sn	0 - 2	7440-31-5
Ti	0 - 2	7440-32-6
Zn	0 - 2	7440-66-6
Zr	0 - 2	7440-67-7
Si	0.2 - 1.4	7440-21-3

IPCI C22C0009-06 [ICM,7]; C22F0001-08 [ICS,7]; C22F0001-00 [ICS,7]
IPCR C22F0001-08 [I,A]; C22C0009-06 [I,A]; C22F0001-00 [I,A]
CC 56-11 (Nonferrous Metals and Alloys)
IT Rolling (metals)
(hot; in prodn. of high-strength copper alloy strips for electronic parts)
IT 59535-48-7 105682-95-9 116877-96-4 198898-10-1 198898-14-5 198898-16-7 198898-19-0 323202-24-0 323202-25-1 323202-26-2 323202-27-3 323202-28-4
(rolling and ageing treatment in prodn. of high-strength copper alloy strips for electronic parts)

L53 ANSWER 18 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER: 1997:718216 HCAPLUS Full-text
DOCUMENT NUMBER: 128:38153
ORIGINAL REFERENCE NO.: 128:7431a,7434a

TITLE: Manufacture of metal composites composed of metal matrixes, reinforcing materials, and metal microflakes showing exothermic reactivity with matrix metals
INVENTOR(S): Nakanishi, Harumichi
PATENT ASSIGNEE(S): Daihatsu Motor Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09287036	A	19971104	JP 1996-98786 <--	19960419
PRIORITY APPLN. INFO.:			JP 1996-98786 <--	19960419

ED Entered STN: 13 Nov 1997
AB In manuf. of the title composites, preforms contg. the reinforcing materials and the metal microflakes are previously formed, and impregnated with molten matrix metals at reduced pressure. The matrix may be Al, and the metal microflakes may be selected from (alloys of) Ni, Fe, Co, Cr, Mn, Cu, Ag, Si, Mg, Al, Zn, Sn, and Ti. The method gives metal composites almost free from micropores and having uniform composite structure.
IT 199792-47-7
(in manuf. of reinforced metal composites using flake metals having exothermic reactivity with matrix metals)
RN 199792-47-7 HCAPLUS
CN Silver alloy, nonbase, Ag,Al,Co,Cr,Cu,Fe,Mg,Mn,Ni,Si,Sn,Ti,Zn (9CI) (CA INDEX NAME)

Component	Component Registry Number
Ag	7440-22-4
Al	7429-90-5
Co	7440-48-4
Cr	7440-47-3
Cu	7440-50-8
Fe	7439-89-6
Mg	7439-95-4
Mn	7439-96-5
Ni	7440-02-0
Si	7440-21-3
Sn	7440-31-5
Ti	7440-32-6
Zn	7440-66-6

IPCI C22C0001-09 [ICM,6]; B22D0019-14 [ICS,6]
IPCR B22D0019-14 [I,A]; C22C0047-00 [I,A]; C22C0047-06 [I,A]; C22C0047-08 [I,A]; C22C0047-10 [I,A]; C22C0049-04 [I,A]; C22C0049-06 [I,A]; C22C0049-14 [I,A]
CC 56-4 (Nonferrous Metals and Alloys)
IT 7440-32-6, Titanium, processes 12137-20-1, Titanium oxide (tio)

199792-47-7
(in manuf. of reinforced metal composites using flake metals having exothermic reactivity with matrix metals)

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     (FILE 'HOME' ENTERED AT 13:27:38 ON 23 JAN 2012)

     FILE 'HCAPLUS' ENTERED AT 13:27:52 ON 23 JAN 2012
L1             1 SEA SPE=ON  ABB=ON  PLU=ON  US20090229716/PN
                 SEL RN

     FILE 'REGISTRY' ENTERED AT 13:30:02 ON 23 JAN 2012
L2             5 SEA SPE=ON  ABB=ON  PLU=ON  (1016637-49-2/BI OR 1016637-50-
                 5/BI OR 138599-46-9/BI OR 222538-87-6/BI OR 475563-28-1/BI)
L3            44 SEA SPE=ON  ABB=ON  PLU=ON  (CU(L)NI(L)SI(L)MG(L)SN(L)ZN(L)
                 AG(L)CR)/ELS
L4             1 SEA SPE=ON  ABB=ON  PLU=ON  L3 AND L2
                 E NI2SI/MF
L5             2 SEA SPE=ON  ABB=ON  PLU=ON  NI2SI/MF

     FILE 'HCAPLUS' ENTERED AT 13:32:17 ON 23 JAN 2012
L6            46 SEA SPE=ON  ABB=ON  PLU=ON  L3
L7          1085 SEA SPE=ON  ABB=ON  PLU=ON  L5
L8             0 SEA SPE=ON  ABB=ON  PLU=ON  L6 AND L7
L9             1 SEA SPE=ON  ABB=ON  PLU=ON  L6 AND L1
                 E  ANNEALING/CT
L10       143853 SEA SPE=ON  ABB=ON  PLU=ON  ANNEALING+PFT,NT/CT
                 E ROLLING (METALS)/CT
L11        34829 SEA SPE=ON  ABB=ON  PLU=ON  "ROLLING (METALS)"+PFT,NT/CT
L12           12 SEA SPE=ON  ABB=ON  PLU=ON  L6 AND (L10 OR L11)
L13           16 SEA SPE=ON  ABB=ON  PLU=ON  L6 AND  (PEP OR PROC)/RL
L14           46 SEA SPE=ON  ABB=ON  PLU=ON  L6 OR (L12 OR L13)
L15           31 SEA SPE=ON  ABB=ON  PLU=ON  L14 AND (1802-2007)/PRY,AY,PY
L16            0 SEA SPE=ON  ABB=ON  PLU=ON  L15 AND NI2SI
L17            0 SEA SPE=ON  ABB=ON  PLU=ON  L15 AND SINI2
L18           31 SEA SPE=ON  ABB=ON  PLU=ON  (L15 OR L16 OR L17)
L19           31 SEA SPE=ON  ABB=ON  PLU=ON  L18 OR L8

     FILE 'REGISTRY' ENTERED AT 14:20:28 ON 23 JAN 2012
L20        80304 SEA SPE=ON  ABB=ON  PLU=ON  (CU(L)NI(L)SI)/ELS
L21        63949 SEA SPE=ON  ABB=ON  PLU=ON  L20 AND (MG OR SN OR ZN OR AG
                 OR CR)/ELS
L22            5 SEA SPE=ON  ABB=ON  PLU=ON  L21 AND L2

     FILE 'HCAPLUS' ENTERED AT 14:21:51 ON 23 JAN 2012
L23       109669 SEA SPE=ON  ABB=ON  PLU=ON  L21
L24           44 SEA SPE=ON  ABB=ON  PLU=ON  L23 AND L7
L25            6 SEA SPE=ON  ABB=ON  PLU=ON  L24 AND (L10 OR L11)
L26           31 SEA SPE=ON  ABB=ON  PLU=ON  L24 AND PROC/RL
L27           44 SEA SPE=ON  ABB=ON  PLU=ON  (L24 OR L25 OR L26)
L28           39 SEA SPE=ON  ABB=ON  PLU=ON  L27 AND (1802-2007)/PRY,AY,PY
L29           39 SEA SPE=ON  ABB=ON  PLU=ON  L28 AND ALLOY?/SC,SX
L30              QUE SPE=ON  ABB=ON  PLU=ON  HEAT? OR WARM? OR HOT# OR
                 CALEFACT? OR TORREFACT? OR PYROL? OR SINTER? OR CALCIN? OR
                 AUTOCLAV? OR THERMOL? OR THERMAL? OR TEPEFACT? OR PREHEAT?
                 OR MELT? OR FUSE# OR FUSING# OR FUSION? OR (HIGH## OR
                 HEIGHTEN? OR RAIS? OR INCREAS? OR ELEVAT?)(2A)(TEMP# OR
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                TEMPERATUR?)
L31           20 SEA SPE=ON  ABB=ON  PLU=ON  L29 AND L30
L32         2500 SEA SPE=ON  ABB=ON  PLU=ON  L23 AND L10
L33          719 SEA SPE=ON  ABB=ON  PLU=ON  L32 AND L11
L34          591 SEA SPE=ON  ABB=ON  PLU=ON  L30 AND L33
L35          530 SEA SPE=ON  ABB=ON  PLU=ON  L34 AND PROC/RL
L36            1 SEA SPE=ON  ABB=ON  PLU=ON  L35 AND L1
                E HEAT TREATMENT/CT
L37       275044 SEA SPE=ON  ABB=ON  PLU=ON  "HEAT TREATMENT"+PFT,NT/CT
L38          530 SEA SPE=ON  ABB=ON  PLU=ON  L35 AND L37
L39          530 SEA SPE=ON  ABB=ON  PLU=ON  L38 AND PEP/RL
L40           62 SEA SPE=ON  ABB=ON  PLU=ON  L39 AND ELECTRIC?
                E ELECTRIC APPARATUS/CT
L41      1607077 SEA SPE=ON  ABB=ON  PLU=ON  "ELECTRIC APPARATUS"+PFT,NT/CT
L42           26 SEA SPE=ON  ABB=ON  PLU=ON  L40 AND L41
                E ELECTRIC APPARATUS/CT
L43        27448 SEA SPE=ON  ABB=ON  PLU=ON  "ELECTRIC APPARATUS"/CT
L44            7 SEA SPE=ON  ABB=ON  PLU=ON  L40 AND L43
L45            7 SEA SPE=ON  ABB=ON  PLU=ON  L39 AND L43
L46          171 SEA SPE=ON  ABB=ON  PLU=ON  L23 AND L43
L47           31 SEA SPE=ON  ABB=ON  PLU=ON  L46 AND L37
L48           24 SEA SPE=ON  ABB=ON  PLU=ON  L47 AND PROC/RL
L49           21 SEA SPE=ON  ABB=ON  PLU=ON  L48 AND (L10 OR L11)
L50           21 SEA SPE=ON  ABB=ON  PLU=ON  (L44 OR L45) OR L49
L51           10 SEA SPE=ON  ABB=ON  PLU=ON  L50 AND (1802-2007)/PRY,AY,PY
L52           11 SEA SPE=ON  ABB=ON  PLU=ON  (L12 OR L13) AND (1802-2007)/PR
                Y,AY,PY
L53           18 SEA SPE=ON  ABB=ON  PLU=ON  L51 OR L52
L54            0 SEA SPE=ON  ABB=ON  PLU=ON  L29 AND L53
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